ARCADE BRITANNIA

A SOCIAL HISTORY OF THE BRITISH AMUSEMENT ARCADE

ALAN MEADES

Arcade Britannia

Game Histories

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A Social History of the British Amusement Arcade

Alan Meades

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Series Foreword

What might histories of games tell us not only about the games themselves, but also about the people who play and design them? We think that the most interesting answers to this question will have two characteristics. First, the authors of game histories that tell us the most about games will ask big questions. For example, how do game play and design change? In what ways is such change inflected by societal, cultural, and other factors? How do games change when they move from one cultural or historical context to another? These kinds of questions forge connections to other areas of game studies, as well as to history, cultural studies, and technology studies.

The second characteristic we seek in "game-changing" histories is a wide-ranging mix of qualities partially described by terms such as *diversity*, *inclusiveness*, and *irony*. Histories with these qualities deliver interplay of intentions, users, technologies, materials, places, and markets. Asking big questions and answering them in creative and astute ways strike us as the best way to reach the goal of not an isolated, general history of games, but rather of a body of game histories that will connect game studies to scholarship in a wide array of fields. The first step, of course, is producing those histories.

Game Histories is a series of books that we hope will provide a home—or maybe a launch pad—for the growing international research community whose interest in game history rightly exceeds the celebratory and descriptive. In a line, the aim of the series is to help actualize the critical historical study of games. Books in this series will exhibit acute attention to historiography and historical methodologies, while the series as a whole will encompass the wide-ranging subject matter we consider crucial for the relevance of historical game studies. We envisage an active series with output that will reshape how electronic and other kinds of games are understood, taught, and researched, as well as broaden the appeal of games for the allied fields such as history of computing, history of science and technology, design history, design culture, material culture studies, cultural and social history, media history, new media studies, and science and technology studies.

The Game Histories series will welcome but not be limited to contributions in the following areas:

- Multidisciplinary methodological and theoretical approaches to the historical study of games
- Social and cultural histories of play, people, places, and institutions of gaming
- Epochal and contextual studies of significant periods influential to and formative of games and game history
- Historical biography of key actors instrumental in game design, development, technology, and industry
- Games and legal history
- Global political economy and the games industry (including indie games)
- Histories of technologies pertinent to the study of games
- Histories of the intersections of games and other media, including such topics as game art, games and cinema, and games and literature
- Game preservation, exhibition, and documentation, including the place of museums, libraries, and collectors in preparing game history
- Material histories of game artifacts and ephemera.

Henry Lowood, Stanford University

Raiford Guins, Indiana University Bloomington

Preface

Between the ages of seven and sixteen, I spent as much time as possible in my local amusement arcade in the sleepy Victorian seaside resort of Broadstairs, famous for being Charles Dickens's favored summer residence. I was what you might call an arcade local, one of the thirty or so kids who hung around the arcade constantly. While summer holidaymakers would come and go, their pockets bulging with coins to spend in the arcades, we locals ran a slower but steadier race. We saved our allowance and school dinner money; we'd watch for unused credits and rejected coins and listen for the clatter of money falling spontaneously from a coin-pusher machine. We'd also play what we considered reliable, low-stakes fruit machines in the hope of earning winnings to extend our playtime. We did this not only during the summer months, but all the while the arcade was open, even after the tourist crowds had gone. For an arcade local, the arcade was not simply about the latest impressive videogames or fruit machines, but its community of arcade players, workers, managers, and owners. We grew to know and respect the managers and workers, who became recognizable but distant figures of authority. Instead of being the site of vice and risk that so many parents feared the arcade was, during my youth I knew it as a place of fun, full of adolescent peers but surrounded by other groups we were largely oblivious to, all under the sometimes-watchful eyes of the manager and staff.

My time spent in amusement arcades was not without threat, however. Visits to arcades in other towns, especially out of season, felt risky. When I'd encounter locals from other arcades on their home turf, I felt it necessary to observe the rules. Winning a jackpot on a fruit machine or spending too long on a videogame might be regarded as an infraction and draw unwanted attention from the resident locals. The appropriate protocol differed according to the number of locals, their physical size and reputation, and the proximity of any arcade staff. But generally the smart move was to quickly and quietly leave: besides, anything beyond frosty stares might result in temporary or permanent arcade bans, and it wasn't worth reducing the number of arcades around the coast that I could visit.

Under these conditions, I watched as new machines appeared, and the games, people, and interactions within the arcades were enormously influential as I grew up. There was the day that my friend and I sat in a real Ferrari sports car after school and then played Sega's *Out Run Deluxe* afterward until our money ran out, our heads a-fizz with the blur between real life and Sega's game. I remember the day that Konami's *Teenage Mutant Hero Turtles* machine arrived in the arcade; we watched as the plastic wrap was peeled off it, and we were given free credits as the videogame was put through its paces. I remember having to balance on tiptoe on an angled rubber strip to play Taito's *Ninja Warriors* in its huge, three-screened cabinet, which was too tall for me to comfortably see. Most of all, I remember the arcade as a space defined by noise and crowds during the summer, and as a refuge from endless dreary rain as the tourist season ended and the British weather descended. Yet while it might seem familiar to readers, my preoccupation with the power tensions among the various contingents of arcade locals is only one perspective of the British arcade. Arcades were also inhabited by other groups: holidaymakers, families, elderly and very young coin-pusher players, gamblers, workers, managers, owners, occasionally distributors, and even game designers.

Arcade Britannia is an attempt to trace some of the less well-known perspectives of the British arcade, and in doing so, highlight its differences compared to North American arcades, and its place within British culture. As we shall see, the British arcade is a product of centuries of evolution of public play, gambling, and mechanization. *Arcade Britannia* tells a story of long-standing cultural motifs—traveling fairs and showfolk—of engineers, technological pioneers, and entrepreneurs who saw an opportunity to create the arcade landscape that remains important to so many to this day. Finally, this book details the British arcade as a product of legislative changes, a pendulum shift between control and liberalization, the product of continued efforts of government and concerned moralists to limit and diminish play.

Arcade Britannia is an attempt to sketch out the long history of the British arcade, with its tangled technological, social, cultural, biographic, and legislative perspectives. This is done by breaking the history into eleven chapters (plus this preface), as follows:

- Chapter 1, "The British Arcade Versus the Mythic Arcade," traces the influence of media upon our understanding of the arcade, including selected academic literature and popular media. It describes the mythic arcade, a distorted version of the real North American arcade that has become dominant and now obstructs an understanding of regional arcades, such as those in Britain.
- Chapter 2, "From Showfolk and Sanddancers to the 1960 Gaming Act," presents the tangled foundations of the arcade. This includes the cultural, social, historic, and legislative contexts, and it also highlights the role of traveling showfolk, moral reform, and public attitudes toward gambling, as well as inconsistent policing, in the development of the British arcade. It ends with the 1960 Gaming Act, which liberalized gambling in Britain and enabled the modern British arcade.
- Chapter 3, "Coin-Op Entrepreneurialism," offers examples of different businesses that developed as entrepreneurs exploited the conditions of the 1960 Gaming Act, and radically expanded the British arcade and machine manufacture and distribution.
- Chapter 4, "Get This Lousy Piece of Legislation Put Right," details the strong countermovement to the 1960 Gaming Act as the government and concerned members of the public responded to claims of arcade overexpansion, links with organized crime, and undertaxation, leading to the unveiling of the Gaming Board for Great Britain, the 1969 budget, and machine-protest bonfires around Britain.
- Chapter 5, "Pings, Pongs, and Pioneers," details the arrival of videogames in Britain, including the Manchester-based company Alca beating Atari to the British market. It also highlights the already global and connected nature of the British amusement arcade industry.
- Chapter 6, "Copyright Defenders and the British Videogame Crash," details the development of copyright law in relation to British videogames, the rise of unlicensed game conversion and modification services, and the global industry's pursuit of a legal test case. It also discusses the British arcade crash of 1982.

- Chapter 7, “The Invader’s Revenge,” details the development of relationships between the Japanese and British videogames industries. It discusses the development of *The Pit*, a British-designed arcade videogame exported to Japan and the US, the arcade origins of the Nintendo (and later Microsoft) developer Rare, and the defensive move from printed circuit boards (PCBs) to large simulator machines to combat piracy.
- Chapter 8, “Anti-Groups, Addiction, and the Arcade as Cinema” details attempts of the Amusement Arcade Action Group (AAAG) to bring about radical control of the British arcade industry, as well as its (almost successful) efforts to have the arcade categorized as a cinema.
- Chapter 9, “SegaWorld, *Street Fighter II,* and Exporting Games to Japan,” details the British arcade videogame landscape of the 1990s, the heavy investment in Britain by the Japanese gaming company Sega, its failed SegaWorld theme park/arcade, and the inversion of videogame manufacturing patterns due to the strong yen and weak pound.
- Chapter 10, “Gold Dust, 20p Fruit Machines, and Redemption,” offers a companion to chapter 9, but it looks at the fruit machine and low-stakes gambling environment during a similar time period. It charts the failure of 20p fruit machine play and the segregation of the industry into juvenile and adult arcades.
- Chapter 11, “A Historic Accident,” details the 2000 *Budd Report* and 2005 Gambling Act and describes their enormous impact upon the British amusement arcade by liberalizing gambling, enabling online gambling and Fixed Odds Betting Terminals (FOBTs) to proliferate throughout Britain, and simultaneously penalizing the amusement arcade for allowing children to play low-stakes gambling machines. Framed by the *Budd Report* as a historic accident, this chapter concludes the book, showing that successive legislation has attempted to isolate the British arcade, changing it from a single site of public play for everyone to multiple isolated (and often networked) arcades for distinct groups.

Acknowledgments

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1 The British Arcade Versus the Mythic Arcade

The Mythic Arcade

I want you to imagine an amusement arcade. Start with the building: its age, its decor, the construction, the ceiling height, the lighting, and the flooring. Think of the people there: the patrons—who are they? What are their ages, their gender, and their roles? Are they playing, watching, or working? What are the sounds: is there music, is there noise? Is the arcade dark or light, cramped or airy? Finally, if you have not already, I want you to consider the machines. What games and attractions fill your imaginary arcade? What machines are there to be played?

There is a good chance that you imagined a dark cavern of neon lights, phosphorescent screens, and cramped rows of videogames. The arcade was likely filled with adolescents (mostly boys), and awash with blips and bloops, snippets of game jingles, sound effects, and cries of elation and frustration from the players, and perhaps you imagined some soft-rock music coming from a speaker. Depending on your age and nostalgic preference, you might have stocked your arcade with Atari's *Pong*, Taito's *Space Invaders*, Namco's *Pac-Man*, Sega's *Out Run*, Capcom's *Street Fighter II*, or perhaps Sega's *Daytona USA* or *Virtua Racing*. Some readers might have included a crane, a ticket-redemption machine, or a punching machine

I would wager that few readers' imaginary arcades included slot machines, fruit machines, or penny pushers—all machine types that are central to British arcades and enable low-stakes gambling. And I would expect fewer still would have imagined these machines being played by children, surrounded by apparently unconcerned adults. For many, this situation might be unfathomable or shocking—your imagined arcade dominated by neon lights, adolescent boys, and videogames. But if you have spent any time in British amusement arcades, the vignette painted in these last sentences will seem normal—and more to the point, *is* normal. It *is* the British arcade. Examples of real British arcades can be seen in the photographs shown in figures 1.1–1.9, taken in the 1980s by the photographer and arcade bingo-caller George Wilson. How many of the images comply with the arcade that you imagined? See the Fair Ground arcade's open doors facing the seafront. See the change booth, Perspex signage, videogames, and the pool table; and the bingo caller in the back of the arcade, and the girl and boy gambling on fruit machines, joined by an elderly woman playing games alongside them. Behold loitering in the arcades, people staring out the doors at the front as much as watching the games, and their leaderboards (KEV is in first place, with almost 60,000 points on *Defender*).

The neon-and–videogame arcade that most people imagine is simply a dominant arcade archetype that bears little relation to real arcades other than during a specific point in their continual evolution. This archetype is something I call the *mythic arcade*. The mythic arcade is a product of imagery like Flynn's Arcade, seen in the 1982 Disney movie *Tron* and

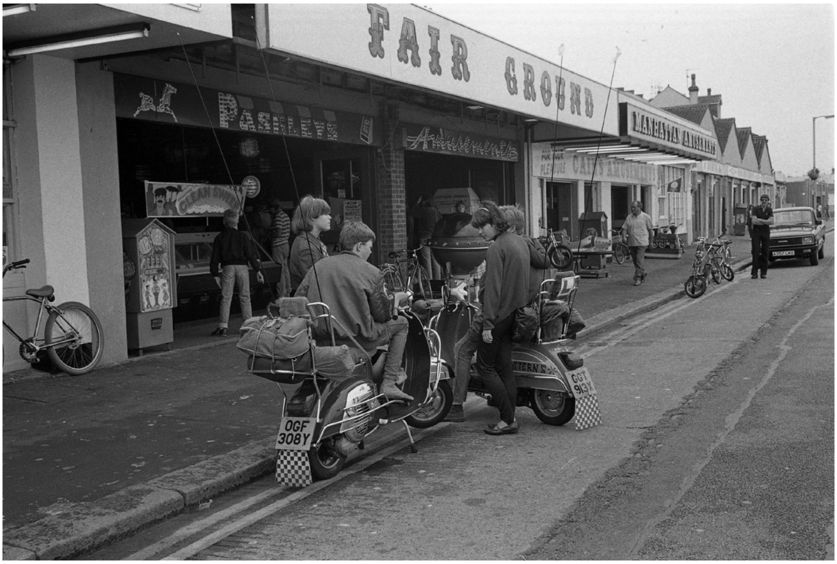


Figure 1.1
Exterior of the Herne Bay Fair Ground and Manhattan Amusements, early 1980s. Copyright George Wilson/South East Archive of Seaside Photography, CCCU.

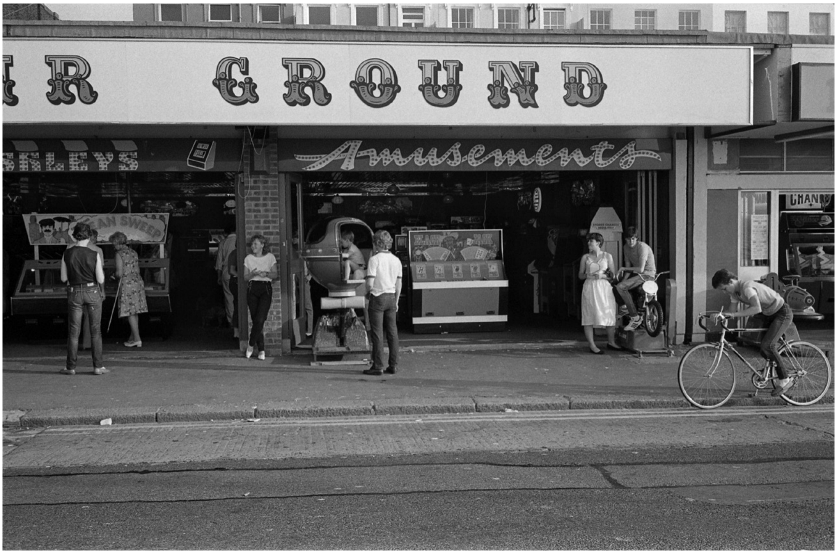

GROUND
Amusements

Figure 1.2
Exterior of the Herne Bay Fair Ground arcade; note patrons loitering in and around the space. Copyright George Wilson/South East Archive of Seaside Photography, CCCU.

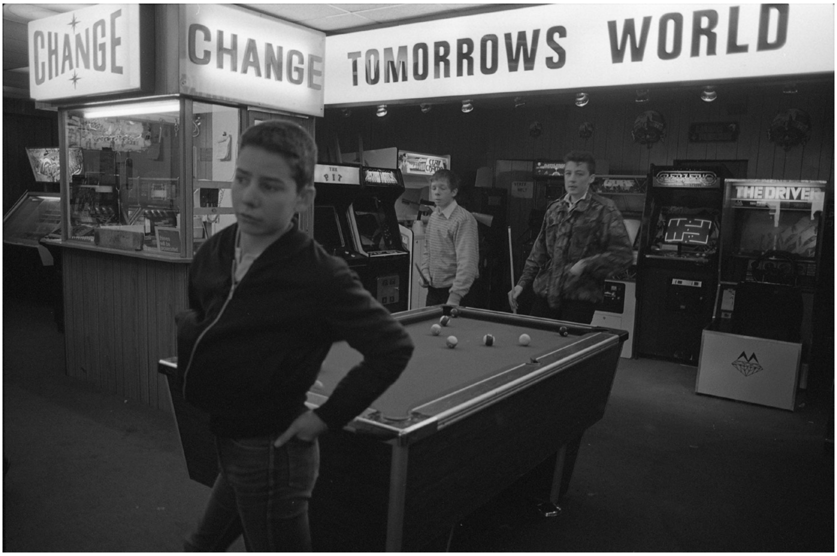

CHANGE
CHANGE
TOMORROWS WORLD
THE DRIVER

Figure 1.3
Interior of the Herne Bay Manhattan Amusements arcade—the arcade for play and posturing; note the mix of games, including *The Pit*. Copyright George Wilson/South East Archive of Seaside Photography, CCCU.

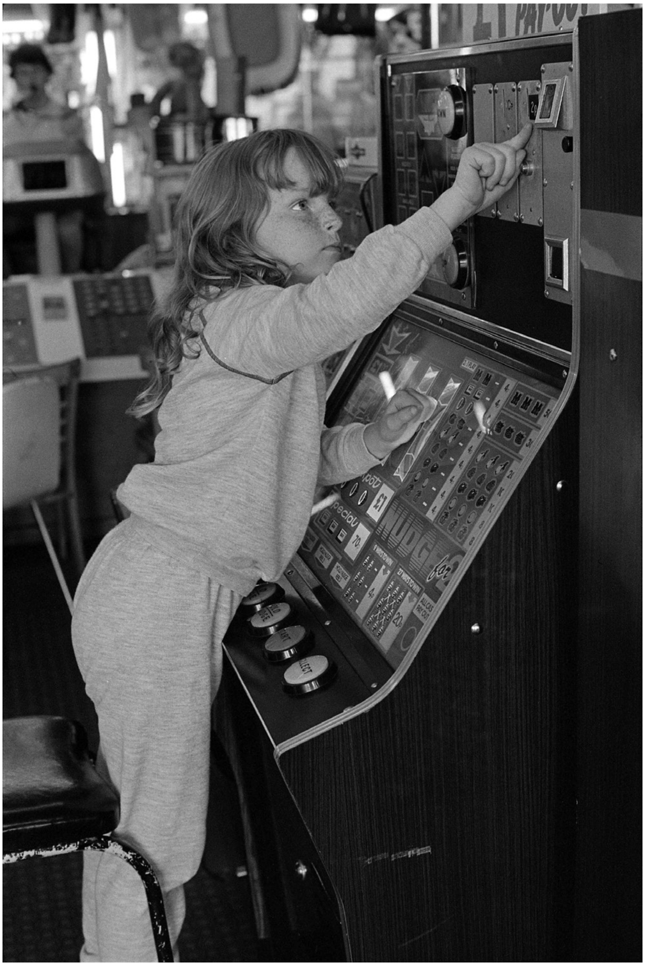


Figure 1.4
Interior of the Herne Bay Pier Arcade; Britain is unique in its approach to low-stakes gambling by minors. A young girl plays a low-stakes AWP fruit machine. Copyright George Wilson/South East Archive of Seaside Photography, CCCU.

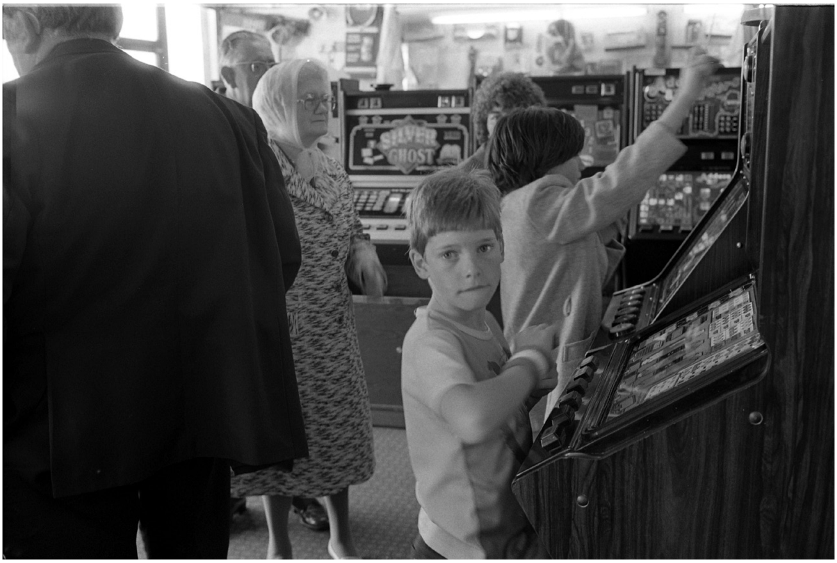

SILVER GHOST

Figure 1.5
Interior of the Herne Bay Pier Arcade; British arcades attract a wide demographic of patrons, the normality of low-stakes gambling by minors is shown further here. Copyright George Wilson/South East Archive of Seaside Photography, CCCU.

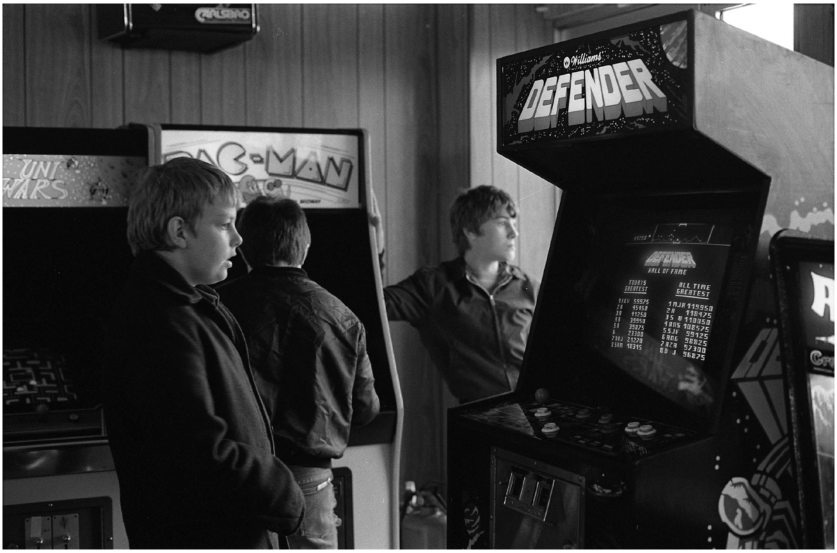

Williams
DEFENDER
PAC-MAN
UNI WARS
DEFENDER
HALL OF FAME

Figure 1.6
Interior of the Herne Bay Manhattan Amusements arcade; arcades were often experienced as places in which to spectate and loiter. Children not only watched the games being played or their scores but also the outside world. For many, the arcade played an important social role. Copyright George Wilson/South East Archive of Seaside Photography, CCCU.

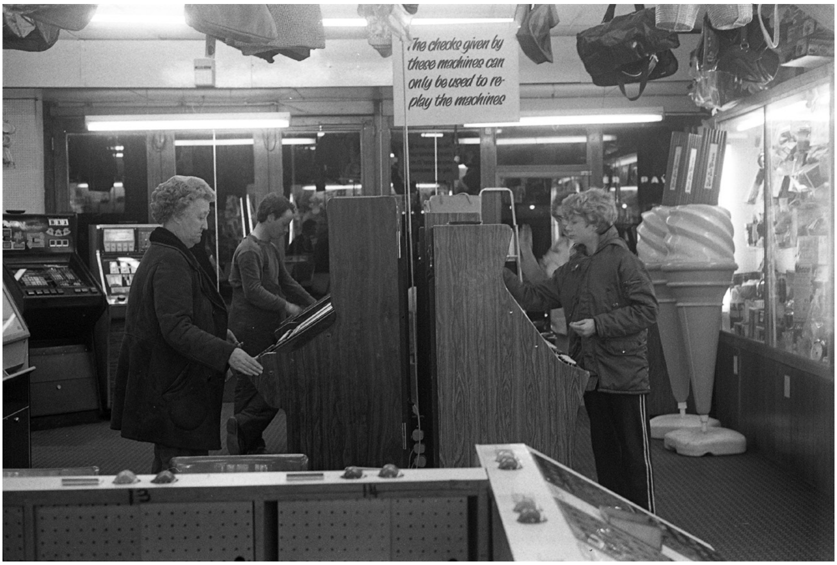

The checks given by these machines can only be used to re-play the machines

Figure 1.7
Interior of the Herne Bay Pier Arcade; note the age range of patrons playing fruit machines, the bingo prizes hanging from the ceiling, and the seaside ice cream signage. Copyright George Wilson/South East Archive of Seaside Photography, CCCU.

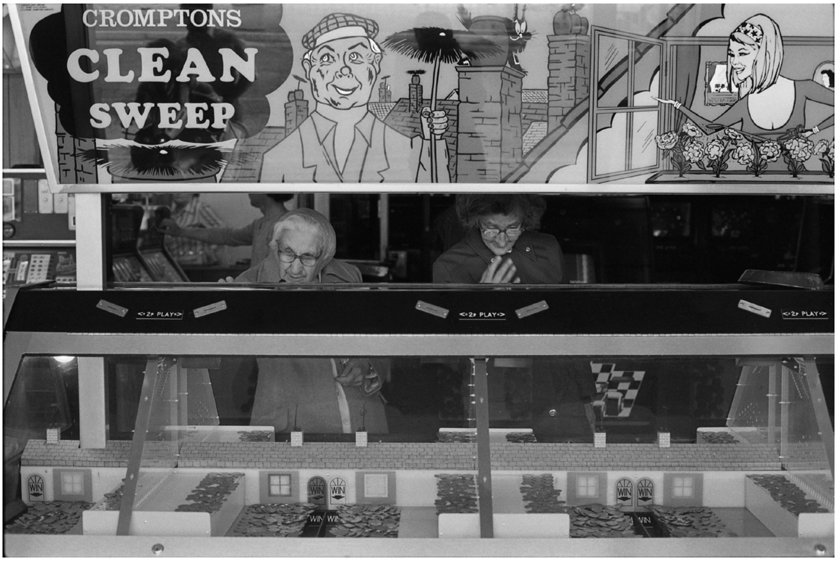

CROMPTONS
CLEAN
SWEEP
<2p PLAY>
<2p PLAY>
<2p PLAY>
WIN
WIN
WIN
WIN
WIN
WIN

Figure 1.8
Interior of the Herne Bay Fair Ground arcade; Crompton's *Clean Sweep* coin pusher machine, a popular machine with all ages. Note the playfield design, resembling terraced streets. Copyright George Wilson/South East Archive of Seaside Photography, CCCU.

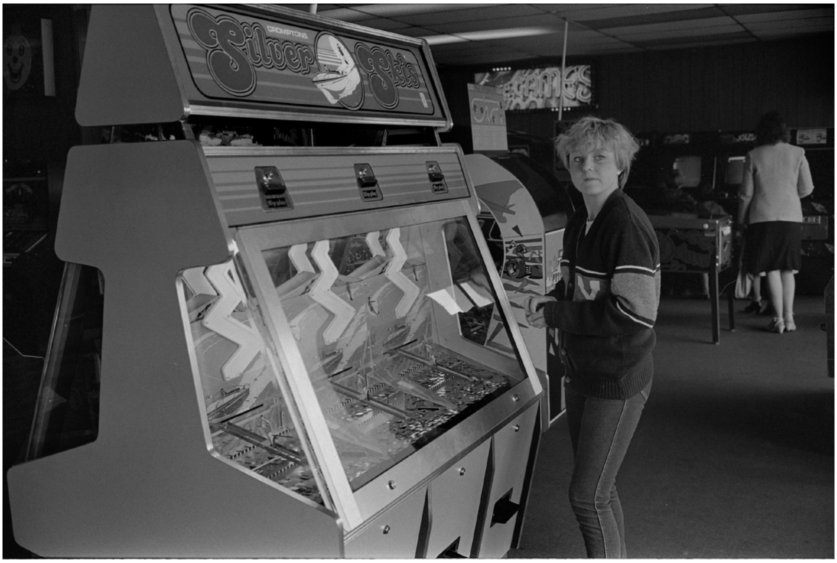


Figure 1.9
Interior of the Herne Bay Manhattan Amusements arcade; Crompton's *Silver Skis*, a later coin pusher. The coin pusher remains an important part of the arcade machine mix, alongside amusements and fruit machines. In this image, we see AWPs, pinball, simulator and stand-up videogames, and a coin pusher. Copyright George Wilson/South East Archive of Seaside Photography, CCCU.

nostalgically reinforced in 2010's *Tron: Legacy*. Flynn's Arcade sits on the corner of an urban plot with a huge, orange neon sign; inside, it is dimly lit and tightly packed, with row upon row of arcade cabinets: we see *Asteroids Deluxe*, *Berzerk*, and *Battlezone*. The dim space is punctuated by flashing neon lights: "CODE WARS," "ZERO," and "GUNNER," and we hear a mix of 1980s pop-rock music. We hear sound effects: *Galaxian*'s "pee-woo," *Space Invaders*' oppressive "chug-chug-chug," and *Donkey Kong*'s "blee-bloop" score sound. In the film, a crowd forms behind Flynn, cheering him on as he scores 999,000 points on *Space Paranoids*. It is a space of orange neon, youth, noise, and technological prowess. Flynn's Arcade is how many of us imagine arcades to be; it is a prime example of the mythic arcade. *Tron*, as well as a smattering of other cultural touchstones that articulated the same technological excitement, have taken on a mythical, totemic significance, helping to establish a "collective gaming memory,"[1] and creating the mythic arcade.

What Makes Britain Different?

Let us sketch a quick outline of the British amusement arcade landscape. Like many countries, Britain developed an appetite for coin-operated amusements during the late nineteenth century. As elsewhere, it has a community of entrepreneurs and show people who adopted new entertainment technologies for public consumption in traveling fairs, events, and amusements. The country developed a seaside-based holiday and entertainment industry focused on relatively few large resorts, and in these places, entertainments like this became highly profitable. And, as in some other countries but rarely acknowledged by game studies (due to distaste—or even prejudice?), the British demonstrated a longstanding predilection for gambling that combined exceptionally well with coin-operated machines.

By the early twentieth century, the British public had embraced coin-operated machines, amusement arcades, and low-stakes gambling. Fueled by enormous numbers of cheap, imported French, German, and then American automatics, low-stakes gambling soon became part of the very fabric of everyday British leisure, especially at seaside resorts that took on a character of abandon, license, and merrymaking. Yet despite their widespread social acceptance, gambling machines were technically illegal in Britain, and police adopted an unsustainable policy of discretionary enforcement, warnings, and ignored offenses. The gulf between public attitudes and law was untenable and politically embarrassing, and in 1960, the British government introduced the Betting and Gaming Act, which legalized two types of gambling machine: *Amusement with Prizes (AWP)* machines, low-stake entertainments with a prize of such trivial value as deemed not to be serious gambling; and *gaming machines* (also known as *club machines*) that had higher stakes and therefore posed higher risk. AWPs could be made available to the public (including children) without restriction, but higher-stake club machines could only be operated in places that excluded the general public, such as members' clubs.

Following their creation, AWPs became the bedrock of the British amusement arcade in urban and seaside settings, leading to enormous expansion of the industry. Arcades could now entertain the whole family with different types of coin-operated machines (AWPs, kiddie rides, and amusements) under the same roof and could satisfy the demands of the public with impunity. This generated hefty duty for the Crown, but also became a concern for some members of society. The act also set off a process of legislative recalibration and amendments that continue to this day, and these changes have affected the development of the British arcade. As a result of the 1960 Act (and later revisions), the UK is the only jurisdiction in the Western world that permits children to gamble on machines. This is only one example of the distinctiveness of the British arcade.

While the headline message might appear to be that this act allowed children to engage in low-stakes gambling, this is a distraction; the important repercussion was that it enabled amusements and gambling machines to sit alongside each other in British arcades. This made the amusement arcade an even more compelling destination for the family (especially on holiday), as it offered a range of activities to cater to different tastes and members of the family. The act therefore had major economic repercussions. For arcade operators, it enabled a kind of cross-subsidization; AWP income could support novelty machines (which in turn accentuated a family feel in the arcades), and prodigiously increased the revenue that could be made. The number of arcades radically increased, and manufacturers developed new machines to cater to expanded demand and the technicalities of the law. And this all happened long before the first bloop was heard from *Pong, Space Invaders,* or *Pac-Man*. While videogames eventually became an important part of the British amusement arcade, and arcades became the place to experience them, the industry was not defined by them. Instead, the British arcade was defined by a longer history: the relationship between amusements and gambling, public attitudes toward propriety, the development of new technologies, and the ways that legislation defines opportunities and limitations for public play.

Returning to the arcade that I invited you to imagine, I assume that it was full of videogames and lacking any form of gambling. Yet, while this might seem like a typical arcade in North America, France, or somewhere else, this kind of arcade is a rarity in Britain. It might exist as part of a larger entertainment offering, such as a bowling alley or amusement park, but most British *arcades-as-destination* depend on a mix of amusements and AWPs for their income. The backbone of revenue in most British arcades is generated by AWPs and low-stakes gambling, and for the majority of Britons, it is normal, accepted, and the way that it has always been.

It is therefore impossible to separate gambling income from the typical British arcade business model. Furthermore, without AWP income, the

British amusement arcade would not have grown to the size it had prior to the invention of videogames and—like the North American arcade industry—would have all but disappeared shortly after their decline (or, perhaps a more accurate word is “crash”). Gambling is such an important part of the arcade’s financial structure, but likely such a jarring concept for most readers, that it is impossible not to address it immediately.

What Does the British Arcade Look Like Today?

The 1960 Act’s successor, the 2005 Gambling Act, shares many of the same objectives. It focuses on the control and taxation of gambling machine income and the protection of the British public, especially minors, from the negative influence of gambling, and it includes mechanisms to minimize the criminal exploitation of machines. Subsequent legislative revisions have introduced new stipulations and restrictions, and since 2007, Britain’s arcade landscape consists of three license types: Unlicensed Family Entertainment Centres (UFECs), Family Entertainment Centres (FECs), and Adult Gaming Centres (AGCs).

UFECs may contain any number of machines, whether amusements-only such as videogames, or AWP machines, provided that they conform to the category D (cat D) specification. Cat D machines include cash-only fruit machines limited to a 10p (14 US cents) maximum stake and £5 cash prize ($6.80), but also prize machines, crane grabbers, coin-pushers, and machines that offer a combination of money and nonmoney prizes. Each stake and prize limit is strictly regulated. A UFEC offers a mix of amusements and gambling: kiddie rides, videogames, cranes, coin-pushers, and low-stakes gambling machines. They are regarded as family-friendly amusements often found seen at seaside resorts. A *UFEC* has no legally stipulated minimum age limit, and it is perfectly legal for children to play on all the machines they contain. It is worth noting that cat D fruit machine stake and prize limits have not increased since they were first defined in 2005, and arcades reliant on these machines for income have seen their returns dwindle each year due to inflation.

Family Entertainment Centres (FECs) may include the same machines as their unlicensed equivalents, but they also can include an unlimited number of category C (cat C) machines in a separately supervised, adults-only area. Cat C machines have a higher maximum stake and cash prize than cat D (£1 and £100, $1.36 and $136). FEC licenses are granted by the Gambling Commission, and successful applicants must conform to stringent criteria. An FEC is therefore best understood to be a typical family arcade, containing a mix of videogames, kiddie rides, fruit machines, cranes, and other amusements, which also includes a separate area containing higher-stakes gambling machines *only accessible by adults*. This is an example of a cross-subsidized amusement arcade, with income from each machine category fluctuating according to the season and the arcade's clientele. At the height of the season, a surge of vacationers might lead to increased income from amusements and cat D machines, while out of season, the cat C machines might make a reliable stream of income. The patterns of earnings depend on the arcade's location and its machine mix (and machine layout), as decided by its staff.

The third arcade type defined by the 2005 Gambling Act is the Adult Gaming Centre (AGC). Minors are not permitted in these arcades, and the stakes and prizes in its machine mix reflect this. An AGC may contain an unlimited number of amusements and cat C and cat D machines, but 20 percent of its total number of machines can be higher stakes category B3 (£2 and £500) and category B4 machines (£2 and £400). While other even higher-stake gambling machines exist (categories B1 and B2), these are limited to casino and betting sites and subject to further regulation. AGCs are found throughout Britain, often on main commercial streets of towns and cities.

The Gambling Commission's licensing regime, with its UFECs, FECs, and AGCs, creates another arcade type by omission. This arcade type contains no prize-giving or gambling machines, or the prizes are so trivial that no form of regulation is required. These kinds of arcade do not fit well within the historic economic model of the British arcade, which relies upon gambling for its core income, and are few and far between. Some large, amusement-focused arcades have remained in operation, but there is a sense in 2021 that this model no longer works. For example, Namco's three-floor flagship arcade Funscape County Hall, situated just off London's Westminster Bridge, finally closed on August 12, 2021. Its location commanded some of the highest tourist footfalls in the country, and it is likely this that ensured its survival for so long. At the point of closure, Namco Funscape County Hall was the largest London arcade adopting a traditional pay-per-play model. Some have seen the hall's closure as a sign of the death of the British arcade, but this is not strictly the case. It is fairer to see it as the twilight years of the traditional British arcade business model. Elsewhere, Britain has seen a rise of retro or niche arcades, such as Arcade Club, in Bury, just outside Manchester, or FreePlayCity, in North London. These arcades cater to a more specific demographic (one that resonates with the mythic arcade), often containing retro videogames or popular music and fighting and dance games that support a competitive play community. These arcades dispense of the pay-per-play approach in favor of a flat entry price and then free play. In these modern arcades, videogames and novelties are the entire offering. Retro and modern arcades are still few in number but are growing in popularity, and traditional arcades remain across the country. The success of the new arcades suggests that there is public demand and a willingness by entrepreneurs to pioneer and establish the market—that the British interest in arcades remains, and arcades have cultural significance.

As we shall see, there has been a gradual movement from the arcade as a communal space of public play, supporting many audiences and types of play, to a mode in which are multiple types of arcades catering to specific (and, depending on changing public tastes, sometimes unsustainable) niches. This trend is important to our understanding of public play, with its logical conclusion of modern networked gambling and online gaming, playing publicly, visibly, but over networks, whether on mobile phones, games consoles, or computers, and in physical isolation. Perhaps this represents the end of the amusement arcade and the public play it facilitated.

Where Are Arcades Found Now?

Arcades are found throughout Britain, but concentrated in seaside resorts and major cities. If a destination draws sufficient holidaymakers to a beach or riverside during the all-too-short British summer, then an arcade can often be found alongside shops selling ice cream, fish ’n chips, or beach supplies, to keep tourists entertained when the rain inevitably sets in. These arcades are open and airy, their ceiling-height doors folded back to maximize visibility and to invite visitors to enter, and are only closed out of season or a when squall is blowing up. Filled with a machine mix selected to attract and retain families, they contain banks of coin-pusher machines, ticket-dispensing machines, cranes and grabbers, videogames, punching machine, kiddie rides, fruit machines, and perhaps a candy-floss machine or café.

Beyond the seaside, the AGC becomes dominant, found in almost every major town or city entertainment district. In these arcades, the focus is decidedly on gambling, mostly playing fruit machines. Unlike their seaside cousins, AGCs have frosted glass and screens to obscure the activities within from passers-by. If you crane your neck while passing an AGC, you might catch a glimpse of flashing machine lights reflected on polished chrome or brass, and you will see posters advertising the kinds of machines within, but the sites are designed to offer their patrons privacy. AGCs share much of their decorative character with British chain pubs such as JD Wetherspoon—thick carpets, polished brass, and comfortably dimmed lighting—and have much the same everyday feel: AGC, pub, betting shop, supermarket.

Then you have the collections of machines, perhaps a motorbike racing game next to a couple of low-stakes fruit machines and a crane, sited in a bowling alley, motorway services, or cinema. Each British pub's license contains an automatic entitlement for the inclusion of two cat C or cat D fruit machines on the premises, and this number can be increased with approval from the local authorities. There was a time when almost every taxi office, fish 'n chips shop, and café would contain a fruit machine, but the 2005 Act made this illegal. You might find a videogame or a skill or quiz machine out in the wild, but such encounters became less frequent by the day.

One assumes the lure of online games and gambling on mobile phones and the move away from cash to a contactless payment society has done these other kinds of game in. At the same time, if you pay a visit to a British casino or licensed bingo hall, you will find higher-stakes gambling machines. While there are many coin-operated machines in Britain, their accessibility has been reduced and controlled, available for adults only and under licensed supervision. By contrast, the traditional amusement arcade (best captured by the UFEC, open to all) has had its perceived social risks neutered by freezing the stakes and prizes of the cat D gambling machines it contains. It is my view that by limiting the cat D stake/prize limits for so long, the British government is simply waiting for inflation to make them uneconomical, and then the peculiar but fascinating situation in which the British arcade facilitated a cross-generational novelty and gambling experience enabled by the 1960 Act will become nothing more than a historic footnote.

Who Plays in British Arcades?

Let us consider arcade audiences. Who plays in British arcades—what are their demographics and identities? This is tough to answer for several reasons: there is little reliably available data that describes the historic or contemporary audience, and it is difficult to make general observations about British arcade audiences, as they are so dependent on an arcade's type and location, the season, and the time of day. Yet it remains a pressing question, especially in light of the technomasculine bias of the mythic arcade.

Despite the relative lack of empirical data, I can talk about my years spent growing up in and around arcades in a small British seaside town on the South East coast called Broadstairs. The arcade audience then consisted of several separate groups who appeared largely oblivious to one another. There were vacationing families that crowded the arcade in late afternoon, dragging sand onto the carpet and smelling of coconut suntan lotion before suddenly embarking on coaches and trains and returning to London. The adult members started by playing fruit machines and coin-pushers but soon got bored and disappeared to the nearby pubs, leaving behind the children, an even mix of girls and boys who ambled around the space with handfuls of money, playing machines badly. They would show their unfamiliarity with the space by doing things like not realizing they had unclaimed credits on videogames, having their extra credits taken by arcade locals on multiplayer games, and playing what we saw as the worst fruit machines. The vacationing children seemed young, and I assume that the older teenagers had either decided that seaside day trips were just too uncool to be involved with or maybe had joined their parents in the pubs. By the mid-1980s, the British seaside day trip had become an anachronism, supplanted by trips to Spain or Greece, and domestic resorts remained the preserve of nostalgic elder Britons, those who had not caught on, and those who could not afford foreign travel. The holidaymaking visitors in my hometown arcade were primarily a mix of white and black working-class Londoners.

Out of season, the arcades became quieter, more personal. Many of them would reduce their credit prices on the machines so they would remain busy and inviting, and to give a little back to the locals. When the weather got really bad, the arcade was inhabited only by the dedicated arcade locals. The arcade locals, children like me who lived nearby and claimed the arcade as part of their day-to-day entertainment patch, were a different group. The crowd of about thirty recognizable arcade regulars was made up of about twenty boys and ten girls between the ages of about seven to fifteen; girls joined the arcade a few years after the boys. While seaside resorts were picturesque in the summer, in the winter everything was dead and gray. To make matters worse, there was an absence of reliable, well-paid employment nearby, and despite the quaint Victorian seaside properties many of us lived in, income levels in the region were lower than in much of southern England. The area was not ethnically diverse, and outside the summer season, my arcade companions were primarily white, male, poor, and working class.

Younger locals played videogames and the occasional fruit machine, while the older, more serious boys tended to play fruit machines exclusively, apart from when they wanted to show off to the arcade girls. It would be wrong to regard machines as the sole attraction of the arcade; instead, it was our meeting place, our youth club. My older sister was another arcade local, although she was not there anywhere near as much as I was. She and her friends would breeze through the space, give me money (if I was lucky), show me secret techniques to work the fruit machines, and quickly diffuse any simmering tensions that might be building between the adolescent males. My sister's group would play only certain videogames (like *Pac Land*, *Wonder Boy*, *Marble Madness*, *R-Type*, *Paperboy*, and *Ghouls 'n Ghosts*) and certain fruit machines (like *Crack the Nut* and *Smash and Grab*), spending much of their time smoking cigarettes, looking tough, talking with the oldest boys, and running errands for Howard, the arcade manager. If they were not inside the arcade, they would sit on the arcade steps drinking blue Slush Puppy ice drinks until the manager had decided it was time for them to get lost. The boys in the arcade played all of the good-but-not-too-expensive videogames, such as *Final Fight*, *RoboCop*, *Gauntlet*, and later *Street Fighter II*, or machines that facilitated macho posturing. For a while, there was a *Sonic Blast Man* punching machine, its punch-pad repaired with a fraying strip of silver duct tape; patrons would demonstrate their punching power with a loud thump that reverberated through the arcade. Even though I would be engrossed in a different activity somewhere else in the arcade, I would look up at the power score on the screen as the giant crab, truck, mugger, or meteor was dispatched and make a mental note of the comparative pecking order of the arcade locals. I still remember the stomach-churning feeling of a hard punch hitting the machine, the threat palpable in my overexcitable teenage mind.

I would rarely play on the big simulator machines like *Out Run,* simply because they were too expensive and instead played on the midtier games. When money was running out I would move to the fruit machines, especially those my sister had trained me to play and read, and the older cheaper games on the periphery of the arcade, *Buck Rogers, Time Pilot, Tron*. I would string my money out as long as possible, oscillating between playing videogames, watching others, having small wins on the fruit machines, and grabbing any money that serendipitously fell into the coin-pusher win trays before the staff scooped it up. When my money ran out, I simply hung around in the arcade waiting for something to happen, a friend to arrive, some money to appear, or some other adventure to begin, and then I'd repeat the same thing the next day. But my account presents the British arcade as seen through the eyes of a teenage boy (even worse, the *memories* of experiencing the arcade as a teenage boy), and hence videogames, adolescent threat, and the mysterious presence of older girls are writ large and distorted.

In addition to holidaymakers and arcade locals, there were other groups that we had very little interaction with. There were the old women who came into the arcade in ones and twos and spent hours playing the 2p coin-pusher machines. I was confused that they enjoyed playing what I saw as boring, simple machines, but generally I gave the old dears a wide berth. When my grandmother visited us on vacation (from the East End of London), she joined these women, forming a quick companionship, standing for hours moving between the coin-pushers and expensive *Bar-X* fruit machines that went "dof, dof, dof" with each spin. Still, she enjoyed herself in the arcade, and my sister and I kept checking on her (and each time she would push bunches of 10p coins into our palms). And then there were the isolated, chain-smoking men who stood at fruit machines for long stretches of time. They could have been any age over twenty, but I just saw them as men. I avoided them, not out of any sense of threat but because our worlds did not intersect, almost to the point that we were invisible to each other, feeling the same intergenerational awkwardness that I felt interacting with friends' parents.

We were therefore a working-class family; my father was an electrical engineer who worked on large construction projects, including the Dungeness nuclear power station and the Channel Tunnel. Despite this, my mother was always generous and had spare change for me and my friends to go out and play, and a pound or two in our pockets was enough to justify a trip to the arcade. Certainly, some of my friends were not allowed in the arcades because their parents objected to them, but this did not seem to follow any discernible pattern. Maybe it was connected to parents' social conservatism, the distance of the arcade to home, and fears about child safety. But this was not something that we spoke about. Some of the arcade locals had parents who worked long shifts in low-paid jobs, and for them the arcade offered something more than an empty house, but once more, this was something that was explained by my sister, not by discussion with the locals.

There is also the complication that an arcade audience also fluctuated over the course of a day. I was often one of the first to enter the arcade, sometimes waiting for the doors to be unlocked. The early morning was the preserve of excitable adolescent boys like me; it was also when the arcade manager might be visited by the owner, Jimmy Godden. By midmorning, the rest of the day's locals would arrive, and by about 11 a.m. on, the old women and holidaymakers would appear. At around lunchtime, the arcade would be graced by the local policeman (PC Simes), who would make a point of saying hello to the arcade locals who were familiar to him.

Come early afternoon, the holidaymakers began to properly fill the arcades, having walked up the promenade to eat fish 'n chips. At this point, the locals would usually leave the arcade. While you could normally find some abandoned credits or uncollected winnings in fruit machines or coin-pushers, it was generally too noisy, busy, and hot to stay there. Besides, when it was busy, the arcade workers would be hypervigilant in monitoring for machine-tampering (like bashing a penny-pusher to dislodge some coins) and sensitive to even minor infractions, and it was preferable to leave instead of risking a ban.

By early evening, the crowds dissipated, and some of the locals returned to the arcade once more. The evening and nighttime arcade contained an unpredictable mix of overnighting visitors and locals, and was generally high-spirited and fun. Slowly, the patrons would thin out, and perhaps pub-goers might pop into the arcade to play a few games before heading home, and then the arcade would shut down. There was no discernible difference between the days, except for busier weekends and manic public holidays during the summer, and for me, it was day after day of arcades until school returned and my visits were confined to weekends and a couple of evenings a week.

My experiences were with seaside arcades, primarily in my hometown but also along a small strip of South East England. I would not suggest that this audience was representative of those elsewhere, and certainly not comparable to urban arcades or contemporary arcades. I do not suggest that my experience was representative of all seaside arcades, but it hopefully illustrates the challenge of classifying the British arcade audience. Arcades were spaces for anyone with a little money to spend, and they supported a variety of largely oblivious groups. While the manager and police cooperated to keep the locals in order, there was an undercurrent of male posturing, bravado, and pride, but I doubt any more so than any park, skating rink, or Cub Scout group. It was not a space of crime or illegality: any infractions resulted in immediate and longstanding bans, and the manager and police worked together.

There is a body of literature that offers empirical data describing the British arcade audience, but it is patchy. Building upon sources from the British Mass Observation program which documented everyday British life from 1937 to the 1950s, the leisure scholar Caroline Downs argues that the arcade was key to enabling female Britons to gamble. One observer noted that “arcades were very popular, with women and children taking part in equal number to men,”[2] and accounts like this suggest that, at the seaside at least, the postwar arcades’ patrons were simply people who visited a resort. In the 1980s and 1990s, a wave of moral concern about the problem of adolescent gambling led to a profusion of research offering descriptive accounts of the British amusement arcade, seeking to identify patterns of addiction. While their findings were unconvincing and varied in their methodical rigor, they offer a glimpse of the arcade audience during this period.

Mark Griffiths’s *The Observational Study of Gambling in UK Amusement Arcades*,[3] written in 1991, echoes many of my experiences in arcades. In the seaside arcades he studied, male arcade-goers outnumbered females by more than two to one, and children constituted approximately two-thirds of the clientele. Most were ten- to sixteen-year-old boys, who Griffiths said played “in small groups of between two and four people on videogames and cheaper stake (2p–5p) fruit machines.”[4] Young female visitors stayed with their parents and played “cheap stake (1p–2p) fruit machines and coin pushers,”[5] while the youngest children (under seven years) played nongambling games supervised by their parents.[6] The few adolescent females that Griffiths observed “tended to play in twos next to each other, on the cheap stake fruit machines or video games.”[7] Griffiths also noted other patterns of play:

> Coin pushers appeared to be played upon universally by all sexes and age groups except male senior citizens who rarely frequent arcades. Older women, i.e., middle to old age, tend to prefer cheap stake fruit machines like their much younger counterparts. Older adolescents and young men in groups (18–25 years)

> tend to play games of competition (e.g., table football, rifle range, video games), whereas those on their own played upon higher-stake fruit machines and pinball machines. Young couples in their late teens and early twenties tended to play games in which prizes could be won, usually played by the male to be won for the female.[8]

In a 1995 study, Sue Fisher highlighted the importance of British arcades in adolescent leisure, saying that arcades were the single-most-visited "leisure provision for youth," and the primary motivation of the adolescent visitors was to "hang out" and meet friends.[9] While a 1993 *Schools Health Education Unit* report conducted by John Balding, based on a large data set, found that 28 percent of boys and 7 percent of girls aged between eleven and fifteen had spent their own money on coin-operated videogames in the previous week.[10] Contrast that to 11 percent of boys and 3 percent of girls doing the same on gambling machines.[11] Of those who played fruit machines in arcades, 43.3 percent of played them when they were last on seaside holidays, 39.6 percent visited arcades at least once a week, and the remaining 15.6 percent claimed to visit arcades four or more times per week.[12] John Graham's 1988 *Amusement Machines: Dependency and Delinquency* Home Office report offered further insight, concluding that patrons from working class backgrounds were "slightly over-represented," and a slightly higher proportion of adolescents from the poorest backgrounds played fruit machines. Graham found no discernible demographic differences when videogame play was considered.[13]

According to Griffiths's 1991 study, amusement arcades were primarily occupied by eighteen- to twenty-five-year old men, apart from the late morning from 10–12 a.m., "in which about a third to half the arcade is occupied by middle-aged women," and the evening from 6–9 p.m., in which "as much as half the arcade may be occupied with 14–18-year old mixed-sex teenagers."[14] Much like Fisher's adolescent arcade visitors, when interviewed, Griffiths found that "middle-aged women frequented the arcades as a break in their family shopping to play cheap stake ('simple') fruit machines and/or bingo to meet people, because they were socially/physically isolated."[15]

Furthermore, Griffiths observed that as children approached their sixteenth birthday, the pub displaced nonarcade locations where people might find coin-operated machines. By the age of sixteen, 43 percent of fruit machine players and 29 percent of videogame players said they mostly played in pubs.[16] That almost half of sixteen-year-olds were pubgoers will come as no great surprise to those familiar with 1980s and 1990s Britain and the rite of passage that underage pubgoing represented. Instead, what is notable is that while coin-operated machines attracted players almost wherever they were sited, the amusement arcade remained an important and enduring location for adolescents and young adults, even as others diminished. What is notable is that the arcade was seen by its patrons (whether young boys or middle-aged women) as a social space, with the machines, the entertainment, the gambling, and the community each contributing to its attraction and social function.

So, how do we answer the question, who plays in British amusement arcades? It appears that for passing trade, anyone with money to spend will be welcomed in a British arcade. Whether visitors would feel welcome if an arcade's resident locals were present is harder to say. Perhaps arcade localism was meaningful only to its teenage patrons. There were arcades that I did not feel welcome in as a teenager because I was sensitive to intruding on what I saw as other locals' territory. Yet whether this was substantive or a preoccupation of a teenage boy is unclear. The amusement arcade has a bias toward working class leisure, simply because the more affluent would have opportunities beyond the British seaside resorts and city centers where arcades are found. As for the arcade locals who take ownership of a nearby arcade space, these are determined by the demographics of the resident populations with a masculine working class skew. Arcade locals in a central London FEC would likely be quite different from those in Blackpool, Margate, or Southend-on-Sea—and these make only one of the many different audiences that play in arcades.

The Future of the British Arcade

It would be misleading to say that the British arcade industry is in poor health, especially at the seaside, but arcades remain a vivid feature of contemporary British culture and generate considerable revenue. A 2019 report commissioned by the British Amusement Catering Trade Association (BACTA) argued that once additional impact layers were considered, seaside arcades generated £1.87bn in turnover, added £1.06bn to the British gross domestic product (GDP), and created 27,190 jobs in 2018.[17] Yet despite these impressive figures, the decline of the arcade industry in Britain is undeniable, with operating profits for seaside arcades decreasing by almost a third between 2015 and 2018 (£225m in 2015).[18]

The 2015–2020 Gambling Commission industry statistics report paints a similarly stark picture of decline across the British arcade sector. In 2011, there were 2,103 licensed AGCs in Britain, but by 2020, this figure had dropped 32 percent to 1,431.[19] The contraction was even more acute for FECs, which declined by 37 percent, from 293 to 184.[20] This data captures only locations that require a Gambling Commission license; it omits unlicensed arcades that are authorized by local authorities. However, personal experience would suggest that unlicensed arcades have also declined in number during the same period. In addition, there are industry practices that further distort this data. Many arcades are physically subdivided, with separate entrances and multiple licenses. While an arcade-goer might view such a place as a single site with separate entrances for adults and families, the Gambling Commission would record it as multiple premises. In 2021, therefore, it is reasonable to surmise that there are fewer than 1,724 licensed arcades in Britain.

The decline of the British arcade in this period is mirrored by a major expansion of online gambling activities, the most popular of which, *online slots*, digitally replicate many elements of an arcade fruit machine. The Gambling Commission data logs the Gross Gaming Yield (GGY), which is the amount retained by operators after the payment of winnings and cost deductions—that is, profit. During 2015–2020, British FEC yield declined by a quarter, to £52.4m, and AGC yield increased by a third, to £424.8m, but the yield from online slots *almost quadrupled,* from £594m to £2.2bn.[21] Online casino slots now generate more than four and a half times the yield (£2,211m) of all the licensed machines based in British arcades (£477.25m), and online slots generate almost 70 percent of the total online casino yield. It is important to recognize that higher-stake online slots and casino machines generate greater yields than lower-stake machines in AGCs and FECs because of the size of the stakes. While the arcade industry remains economically significant, it is now dwarfed by higher-stake and online gambling.

The COVID-19 pandemic required arcades in Britain to close to the public several times during 2020 and 2021, inevitably accelerating the adoption of online slots. Like many other businesses in the hospitality sector, British arcades lost more than thirty weeks of trade in a fourteen-month period (the only relief is that arcades reopened briefly during the height of the 2020 summer season). John White, the chief executive of BACTA, described the situation as "the worst obstacle that the arcade industry has faced in sixty years" and suggested that for many arcade operators, income halved in 2020.[22] While seaside arcades had seen steady numbers between lockdowns, inland arcade patronage was far more varied. Speaking with me just before the announcement of the third national COVID-19 lockdown in January 2021, White emphasized how critical opening for the Easter school holidays in April would be to the survival of the British arcade, and yet the regulations were not lifted until May 2021. The impacts of COVID-19 on arcades are unclear. The decline and lockdown did not only affect arcade operators' income directly; it also inevitably pushed some business toward online alternatives. Other companies involved in the trade, including machine manufacturers, distributors, logistics and consumables, have seen their order books slashed.

It is difficult to imagine what the arcade industry will look like after COVID-19, or indeed what appetite there will be for physical, in-person, coin-operated public play. When British arcades reopened to the public in summer 2021, most seaside resorts boasted large crowds, a product of the "staycation" caused by public uncertainty over international travel due to COVID-19 and Brexit regulations. While some arcades struggled to maintain staffing levels, many in the industry quietly spoke of encouraging revenue and the resurgence of the British seaside holiday. It appears that concerns over whether people will still want to press buttons on machines after COVID-19 were misplaced. I am confident that the arcade will remain a feature of British leisure, if perhaps in smaller numbers and with slightly different offerings. After all, the British arcade industry has learned to adapt and respond to other major changes in the past.

This book tells the long history of the British amusement arcade, highlighting the ways that it differs from the dominant North American view of the arcade. This British account of the arcade is based on different long-standing cultural traditions, geography, and public attitudes. I contend that the British arcade's industry formation, the individuals, companies and machines, and its legislative, moral hurdles, and continual evolution are important. Britain became the third-most-significant market for coin-operated videogames after North America and Japan, and it perhaps is the most significant market for coin-operated gambling innovation, and it is now described as being fifteen years ahead of any other jurisdiction in its adoption of online gambling.[23] Furthermore, Britain remains the only country in the Western world where gambling and amusements are so entwined and it is legal for children to gamble on low-stakes machines.

Arcade Tales

This book sits alongside others that attempt to explore alternative and local histories of gaming, especially public play in and around arcades. This topic had been underresearched until relatively recently, with the publication of Raiford Guins's *Game After* and *Atari Design*, Carly Kocurek's *Coin-Operated Americans*, and Lowood and Guin's collection *Debugging Game History*. These books indicate the significance of arcades as physical spaces, as spaces for communities, as well as the complex and overlapping histories that inform them. Each offers insight into the North American arcade, but none presented regional or national differences. Arcades and their histories, architecture, communities, and significance are geographically and culturally related.

Other game studies texts offer pioneering localized play histories. Jaroslav Švelch's *Gaming the Iron Curtain* details the adoption of the home computer in Czechoslovakia, while Alex Wade's *Playback* and Alison Gazzard's *Now the Chips Are Down* offer insights into similar time periods and foci, but from a British perspective. Švelch's, Wade's, and Gazzard's books are exceptionally helpful, as they highlight similarities and differences, and we recognize seemingly monolithic ideas as culturally relative phenomena—authentic, but different. The texts not only offer insight into the historical development and cultural adoption of computers, games, and to some degree public play, but they also enable comparative judgments to be made.

The reader can start to make sense of how play, games, and attitudes toward technology differ and remain the same in different countries, populations, and sociopolitical contexts. *Arcade Britannia* is intended to serve as a companion to Lowood, Guins, and Kocurek's work in the same way that Švelch's, Wade's and Gazzard's books connect to offer scholars greater perspective. While the amusement arcade has received relatively little direct scholarly attention, many people from diverse perspectives and disciplines have ventured into its territory—albeit rarely in a British context.

Arcade Britannia is not the first attempt to tackle the amusement arcade from a critical historical perspective. Arcades, quite often North American arcades, feature heavily in several historic accounts of videogames: J. C. Herz's *Joystick Nation*, Tristan Donovan's *Replay: The History of Video Games*, and Steven Kent's *The Ultimate History of Video Games* tell a well-trodden story of the emergence of videogames, the overexpansion of videogame arcades, their commercial collapse, and then the resurgence of videogames in the home, not in the arcade. We then have other texts that recognize a longer and more complicated history: we have Mark J. P. Wolf's *Before the Crash: Early Video Game History*, Carly Kocurek's *Coin-Operated Americans* and Raiford Guins's *Game After*, which challenge and destabilize these historical accounts of technological and arcade development by extending and critiquing the narrative before, during, and after the North American arcade's golden age. There are also books that are presumably written for acolytes of the mythic arcade wishing to fill their man caves with pristine machines, which catalog and describe machines in technical detail, such as Bill Kurtz's *Encyclopedia of Arcade Video Games* and *Arcade Treasures*.

While scholars like Jaraoslav Švelch, Alex Wade, and Alison Gazzard offer scholarly accounts of arcades and videogame development from national perspectives that challenge the myth, there are also other texts in leisure, tourism, and local studies that are largely unknown but contribute to an understanding of the importance of the arcade. We have deeply specific accounts from the perspective of the United Kingdom, such as Nic Costa's *Automatic Pleasures* and *More Automatic Pleasures*, which collate the author's decades-old coin-operated trade newspaper articles (that in turn were a product of decades of thorough coin-operated industry research). Costa is the definitive British coin-op historian and many subsequent texts, such as those by Paul Braithwaite, clearly build upon his work. There is Nick Laister's *Pennies by the Sea*, which offers an account of Bridlington's Joyland arcade, and James Fairley's *Fun Is Our Business: The Story of Barry's Amusements,* offering a similar project to Laister's, but about the largest amusement park in Ireland. There are autobiographical accounts of playing games which, while often rich and entertaining, vary in their levels of criticality. These include Martin Amis's *Invasion of the Space Invaders*, the brash and droll counterpart to David Sudnow's *Pilgrim in the Microworld*, both now reissued for a modern audience. Sudnow's masterly book explores the impact, importance, and pleasures of Atari's *Breakout*, both in the arcade and at home. Amis's book, on the other hand, appears to be an embarrassed exercise in snark, writing about a subject that he seems to feel is beneath him. We also have Tony Temple's 2020 book *Missile Commander*, which approaches Atari's 1980 *Missile Command*, oscillating between the history, development, and pleasures of committed play. These are rich and deeply interesting texts, especially for those interested in autoethnography, coin-operated machines, and a cultural perspective of public play.

Understandably, critical approaches to arcade history are found in game studies monographs and journals. In *Coin-Operated Americans*, Kocurek challenges the dominant mythology of the North American arcade, especially the way that spaces, games, and audiences are defined by "technomasculinity," which she describes as an "idealized vision of youth, masculinity, violence, and digital technology."[24] For Kocurek, accounts of the American arcade and the development of videogames—and my criticism of many of the texts listed here—is that they are "thoroughly reductive, a popular fiction of a popular medium."[25] In his work on the development of arcades, Erkki Huhtamo suggests that this popular fiction did not develop by chance, but rather has been perpetuated by "industry publicists and corporate cryptohistorians,"[26] who have usefully presented the arcade and electronic gaming as a prehistory to contemporary videogames. In addition to offering an origin story, this approach legitimizes an industry that is obsessed with the new, with technology, and with the periodic repackaging and remastering of the past. Through this myth, the gender inequalities and identity politics of contemporary game culture are retrospectively projected upon the real historic arcade, and thus are incrementally normalized and legitimized, creating an apparently coherent lineage between the old and new and gradually chipping away at any incongruities. This myth says that arcades have always been for boys, that boys have always been more interested in arcade games than girls, men, or women. Certainly, arcade videogames were marketed to a male audience from the start, as was much of the erotically charged Mutoscope content in the early arcade, but whatever the actual gender dynamics of actual arcades, the mythic arcade is adolescent and male. The mythic arcade implies that therefore, accounts of the arcade that do not focus on boys and technology are somehow peripheral or less important.

This myth also emphasizes the transactional nature of pay-per-play, normalizes modern downloadable content (DLC) packs and microtransactions, and presents arcades as a transitory point for the public to access videogames. It also suggests that *videogames* were the sole critical product of the arcade, and that now it no longer exists. The mythic arcade, therefore, offers an origin story for the modern videogame industry, but it also frames videogame audiences and constrains player identities. It presents the arcade as an almost entirely adolescent and masculine space, and this seductive myth has become dominant and passively accepted around the world. Perhaps the only territory not to have capitulated to the mythic arcade is Japan, with its lively and ongoing arcade culture, which we know depressingly little about (although Nic Costa's little-known work states that even Japanese pachinko machines were initially British-made copies of Bavarian coin-operated machines).

The mythic arcade has become so compelling, so dominant, that it now stands as an obstacle against attempts to recognize the amusement arcade's place in cultural instead of technological history. The issue with such a dominant myth is what it displaces. For example, what do we know of the arcade beyond North America? What do we know about the wider social, cultural, and economic (as opposed to technological) significance of the arcade? What do we know of the arcade before the invention of videogames and after their gradual substitution by home consoles, personal computers (PCs), and mobile phones? What do we know of the national amusement arcade identity or the industry's international links? Sadly, the answer to all of these questions, especially beyond the scattered fan and afficionado communities, is *very little indeed*.

Over the last decade, several scholars have produced work that challenges the technomasculine mythic arcade, even if not by name. Raiford Guins's notion of "Visible Evidence of Who Plays (VEWP)" recognizes that these histories disproportionately regard the arcade as a masculine (and adolescent) space because the focus is placed on the machines.[27] On the subject of North American arcades, Guins states that "you may notice that there are actually girls and young women in the arcade. Now look again and see how many of them are playing games? Chances are that hardly any of them are feeding quarters into those beautiful profit centers."[28] Guins's point is that the arcade was inhabited by a female audience, but not necessarily female *players:* by prioritizing pay-to-play, machines, and technology, the mythic arcade diminishes their presence. And this is important because the real arcade is a site of leisure as well as play, and different kinds of play, videogame play, gambling, and play that has very little to do with machines—the social and public play of loitering, seeing, and being seen.

Kocurek recognized the arcade as a commercial space that "encouraged quick play cycles, and a set of pay-for-play 'economic decision making' and related cultural values" that she calls "coin-drop capitalism."[29] Coin-drop capitalism is by definition inhospitable to patrons who do not have or are unwilling to spend money, and yet most arcade operators were wise enough to view site income as a totality instead of requiring each individual to pay. So long as enough patrons were engaging in coin-drop capitalism, the arcade could accommodate those who did not spend, and according to Guins's VEWP concept, this included a greater proportion of female patrons.

There has therefore, been a gradual shift of view of the arcade from the technomasculine account proposed by cryptohistorians to one that sees the arcade as a social space. Samuel Tobin's 2016 article "Hanging in the Video Arcade" is a good example of this, overtly recognizing the contribution of "hangers-on and hangers-out" to the experience and character of the arcade, but also the assortment of "lurkers, lingerers, wallflowers, delinquents, and most of all loiterers."[30] This is right and admirable; it begins to reframe the arcade as a cultural space, a social space, and starts chipping away at the mythic arcade's commercial neon foundations. Benjamin Litherland develops this theme even further, looking at the development of mid-twentieth-century arcades in London, proposing the term "Ludosity," defined as the "quality of game participation as shaped by a range of agents, institutions, and contexts," and making the point that "games history needs to center players in order to fully conceptualize games in history."[31]

While I advocate the reframing of game histories from machines and technologies onto players (and indeed the nonplayers in the same spaces), the reality is that this is exceptionally difficult to do. We are reliant on archive materials and documentary evidence of the historic arcade, and more often than not what remains are commercial success stories, physical machines, and the testimonies of individuals who gained accolades. It is almost impossible to capture the story of the everyday arcade-goer, or the commercial failure of a machine, let alone the failed business. The small or mundane stories that are as important to our understanding of a phenomenon as the others are often simply lost.

Consequently, we therefore encounter different kinds of research that talks about arcades. Erkii Huhtamo's essay "Slots of Fun, Slots of Trouble," found in the *Handbook of Computer Game Studies*, gives an excellent overview of the development of slot machines (and of the first generation of games history, on which the mythic arcade rests), and we have Alison Gazzard's work on videogame clones,[32] arcade photography,[33] and the role of arcade photography to reinforce the arcade myth. Like Gazzard's, Alex Wade's work explores 1980s videogame culture from a British perspective,[34] including the arcade's role in educating "individuals into extending play into the realm of a postindustrial economy."[35] Interestingly, as an arcade-goer, Wade recognizes the edginess of arcades and subterranean "arcaves,"[36] which became part of their adolescent pleasure and attraction. Once more, countering the technologically and economically compliant teenage boys in the mythic arcade, Wade explains that, from a British perspective at least, "amusement arcades, with their position geographically and culturally underground, gave rise to proliferating and, at times, nefarious subcultures,"[37] such as the tricks and systems used to undermine and even invert the automated balances of coin-drop capitalism. Like the loiterers, the hangers-on, the female nonplayers, and the gamblers, members of Wade's nefarious subcultural players do not fit into the arcade myth. Neither do the contributions of scholars from disciplines as wide-ranging as law, gambling studies, history, and tourism studies, which touch upon arcade territory. All of these sources intersect on the subject of the British arcade and *Arcade Britannia*.

It would be wrong to suggest that game studies is immune to the seduction of the mythic arcade. The games scholar Soraya Murray criticized game studies' "continued embrace of specific notions of innovation, genius, and a future orientation," describing it as a fairy tale of technological progress, "science fiction, not history."[38] Murray calls for an approach to games history that not only recognizes technology but is *entangled* with "politics, culture, economics, identity politics, and the interests of those who wish to codify that history as one thing and not another."[39] *Arcade Britannia* is intended as an entangled history of the British arcade, albeit one that leans heavily on the evolution of the arcade industry via archive materials and interviews. It is in part history, biography, cultural analysis, and personal account. It is also partially autobiographical.

I should make my interests clear: I have been a lifelong arcade patron, an arcade local at a British seaside resort. I am passionate about videogames and sometimes play fruit machines, but have no interest in online gambling (I am too risk averse to find high-stakes gambling enjoyable.) Since the age of seven, I have enjoyed playing videogames and low-stakes gambling machines, putting money in coin-pushers, and generally hanging around arcades. I am an arcade fan and feel some nostalgia for my favorite arcade videogames and fruit machines. I've rescued, restored, bought, and sold classic arcade videogames, and I have come to realize the sad achievability of nostalgia; the physical machines never quite trigger the anticipated excitement or emotions. What I now find more compelling is the sense of the British arcade as a *cultural institution*—a space that not only was influential to me as an adolescent (a place to play, to loiter, to explore independence), but also informed my relationship with videogame play, gambling (I have learned that you cannot gamble yourself out of a hole), and public play. To me, the arcade was a formative space; I accessed technology, learned the risks, rewards, and pleasures of gambling, and became part of a group of friends. Subsequently, I have discovered that many others share this view of the British arcade. My intention here, therefore, is not to codify the British arcade as a stepping stone of videogame technological development, or as a purely nostalgic space, but rather one that speaks of the economic, political, social, and cultural conditions of Britain.

In their sociohistorical overview of videogame arcades and the *Street Fighter II* community, Michael Skolnik and Steven Conway talk about arcades as metaphysical spaces. While not talking about British arcades, with their mix of videogames and gambling, Skolnik and Conway's position is pertinent here. They say that in addition to their "material dimensions, videogame arcades were simultaneously metaphysical spaces where participants negotiated social and cultural convention,"[40] and they recognize that while arcades are now fewer in number, the "metaphysical elements of the arcade persist."[41] In other words, the practices that came from the historic arcade now influence behavior, norms, and practices in the contemporary fighting game community. While this does not sound that significant, and indeed aligns with the mythic arcade's notion of the arcade as progenitor of contemporary videogame culture, Skolnik and Conway talk of the arcade as a social environment and its importance as a space, alluding to its significance beyond the source of fighting game etiquette: "The arcade is a different world, wherein, phenomenologically, a different sense of being emerges. The metaphysical space of the arcade, the world that is built, is the social world the participants create through their performance of individual and collective identity."[42]

While I might hesitate to suggest that a different sense of being emerges (for me, the arcade was and is far more normal than is being suggested here), the idea of the arcade as a social world that allows performance of individual and collective identities is key. If we accept that different participants inhabit arcades (as comprehensively shown by Guins's VEWP, Tobin's loiterers, and Wade's subterranean subcultures), that their performances inform their collective and individual identities, and that their performances were facilitated by the specific machines, protocols, laws, and makeup of the audience, then there is a need to document accounts of different arcades and understand how these form. In other words, the formation of the laws, the machines that were placed in arcades, and the wider cultural contexts that inform the performances in arcades matter—even if they do not matter because they were eventually replaced by videogame culture, as the mythic arcade and cryptohistorians might claim, but because they matter in their own right, telling us more about what it means to play publicly, our relationship with technology, and cultural history.

When I began to research arcades, my intention was to document the arcade *beyond the machines*—the activities, behaviors, norms, and accounts of socializing in and around British arcades. I interviewed many players and uncovered narratives of dedicated gameplay, such as one-credit-completing *Nemesis*, finding hidden exploits in fruit machines, and particularly British accounts of spending the change from weekly meat-tray purchases on videogames, tough girls, and teenage experiments in smoking, shoplifting, and first romances. I turned some of these accounts into the *Arcade Tales* comic book series, each telling a different story and enabling me to better articulate my gradually coalescing research aims.

The choice of printed and freely distributed comics was important. The idea was that a comic would reach places I could not, and was far more likely to be read than an email from a British games scholar. While the *Arcade Tales* interviews gave colorful, resonant, and often bittersweet accounts, they remained recognizable and familiar. Perhaps unsurprisingly, when focused on the players, the history of the British arcade became little more than a collection of accounts of British youth culture. I felt that accounts of play and mastery, of boundary-testing and rulebreaking, of pivotal moments in personal history, whether amorous, violent, or serendipitous, were actually mundane. I felt the narratives could have occurred in the municipal park, schoolyard, or fish 'n chips shop as much as in the arcade. While this reinforced my view of the arcade as a cultural space, it did not offer an especially coherent or distinctive account.

On an arcade videogame collectors' forum, I read of the perceived barbarism of one arcade manager. This manager had smashed an old machine, now considered a valuable retro videogame, to pieces rather than sell it to a collector. The consensus on the forum was that arcade owners had somehow *ruined* British arcades. They had abandoned videogames in favor of fruit machines or cranes, they smashed machines without emotion, and so they were only in it for the money. It was apparent that even arcade videogame fans held strong and often negative views of those who ran British arcades.

At first, I took these accounts on face value despite them feeling at odds with my experiences growing up in arcades. Yet, something seemed off. I wondered why someone would destroy a machine rather than sell it for profit. Could the machine not be part-exchanged or kept in operation? Eventually, these uncertainties coalesced into more pressing questions (especially since nobody on the forum had answers): What do arcade operators say about this? Who has asked them? I decided that while players' and collectors' perspectives of British arcade had legitimacy, these people were unaware of the pragmatics of arcade operation, and in the case of collectors, they were driven to extraordinary lengths by the nostalgically distorting mythic arcade. Despite having been an arcade local, I had to admit to having zero understanding of how arcades worked, beyond a vague, peripheral understanding of coin-collections, new machines, and machine maintenance.

After interviewing arcade players for *Arcade Tales*, I was introduced to Scott Turner, the exuberant manager of Cain's Amusements, Herne Bay, Kent, an arcade that opened in 1978. Turner very patiently explained the day-to-day operation of the arcade and challenged the collector's account of arcade operators' barbarism. He recalled witnessing the destruction of a *Gorgar* pinball machine in the period between it having commercial value and collectors being interested in ir. With an old, no-longer-income-generating machine, with maintenance requirements and no storage space available, the machine was destroyed, but it was interesting that the event remained a memorable point of frustration and spectacle. Turner became an advocate for my *Arcade Tales* project, arranging a meeting with the arcade's owner, David Cain, and suggested many people in the British industry whom I should contact, including Phil Silver, then head of compliance at BACTA.

Through the connections made via Turner, Cain, and Silver, members of the British amusement industry became involved in my project, and it became clear how little I knew. I learned of the links between showfolk and arcades, of British manufacturers, uniquely British machines, and an intricate scaffold of legislation and trade organization policies. I learned of BACTA's role representing the arcade industry and serving as a bridge between the government, manufacturers, and arcade operators. I also learned of the British fairground trade's weekly *World's Fair* newspaper and its supplement, *Coin Slot*, which became the voice of the British arcade through much of its development. I contacted David Snook, *Coin Slot's* long-standing editor, to see if he knew of an accessible archive of back issues, but there was none. I visited Sheffield University's National Fairground and Circus Archive, which holds the only complete collection of *World's Fair* newspapers, only to discover, much to the horror of the archivists, that the *Coin Slot* supplement was missing from almost the entire collection. Evidently nobody else before me had been that interested in looking at *Coin Slot* and the week-by-week account of the British industry it contained. It became clear that despite the amusement arcade's significant position in British popular culture, its history was undocumented, and furthermore, that the opportunity to document it was disappearing, if not perhaps already gone.

It was at this point that the challenges of constructing a history based upon anecdotes, memories, and personal accounts became apparent. As I interviewed arcade players, owners, manufacturers, and distributors, the lack of reliable supporting evidence became obvious. The accounts and narratives were colorful, detailed, fascinating, and often accompanied by snippets of supporting evidence, but remained problematic. The materials were diverse: machines, coins, accounts, photographs, promotional literature, industry magazines, flyers, price lists, legal guides, patents, police statements, films, and personal memoirs all contributed to my growing understanding of the British arcade. Yet, it became difficult to connect individual accounts with any confidence. Chronology, names, details, and interconnections were uncertain and amorphous, and this became pronounced as differing accounts and opinions became apparent. I became very much aware that memories fail, accounts differ, and knowledge is lost as people die. The entangled history risked becoming indecipherable—a Gordian knot.

While visiting the London Entertainment, Attractions and Gaming International Expo (EAG), I was fortunate enough to talk with John Stergides, the managing director of one of Britain's most successful amusements manufacturers, Electrocoin. Stergides explained that in the late 1990s, the *World's Fair* newspaper changed ownership, and industry members took the opportunity to swiftly digitize the accessible *Coin Slot* print run. Unfortunately, almost twenty years after this took place, Stergides did not know the archive's whereabouts. He suggested that he had lent his copy to an industry friend, Freddy Bailey, who lives in the United States, but he didn't know if he still had it. In early 2019, following years of purchasing individual issues of *World's Fair* from auctions and chasing many leads, I located and purchased a copy of the archive. This archive of *Coin Slot* newspapers allowed me to connect the narratives into a chronological framework, and as I did so, the complex mesh of economic, cultural, and social factors became apparent. *Arcade Britannia* is the product of one interrogation of this archive, intended to describe the shape, form, and dynamics of the British arcade industry.

Why Study British Arcades?

The image of the amusement arcade has become a global cultural motif. It is used to historically root the contemporary videogame industry, and in addition to now becoming shorthand for "a place where people played videogames in the 1980s," it has helped form videogame genres, cultural practices, and player identities. But the amusement arcade that most of us bring to mind is a specifically North American manifestation, a product of the economic, social, and historic particularities of coin-operated play in that region only. The dominant North American arcade motif is something that I call the *mythic arcade*. The mythic arcade is adolescent, masculine, technology-centric, and almost wholly focused on videogames—it is deeply entrenched in what Carly Kocurek calls the "technomasculine."[43] While this vision of the arcade shares elements with those elsewhere in the world, there are notable absences and differences: for example, gambling is omitted from the mythic arcade but is central to arcades in Britain. These similarities and differences are significant: they are worthy of study because by doing so, we illuminate parallel accounts of the development of public play and videogames and expose the unstable foundations of the dominant mythic arcade.

You might reasonably wonder: Why bother to study the arcade industry in Britain? With a modern videogames industry so acutely influenced by North American and Japanese innovations, what can we learn from the British industry that you might assume is decades-gone? I will illustrate through this book that Britain has an important story to tell about the global adoption of videogames, but that due to legislative peculiarities and global economics, it became closely linked with the American gambling industry and the Japanese videogame industry. The relationships between the Japanese and British coin-operated industries became so intertwined that by the mid-1990s, Britain had become the preferred manufacturing base for Japanese games that were subsequently exported *to* Japan. Arcade games such as the coin-pusher were invented in Britain, responding to the opportunities and demands of the British arcade, which in turn were a product of British legislation and leisure history and have subsequently been embraced globally. Therefore, Britain became a pivotal region for the adoption of games outside North America and Japan.

Unique to Britain, and central to its development as a conduit of arcade play, development, and distribution, is a single piece of legislation that affects British arcade culture to this day: the 1960 Gaming Act. The act modernized British gambling laws; one thing it did was legalize the public availability of low-stakes, coin-operated gambling in arcades, making them profitable. Consequently, since the act came into power in 1961, and unique in the Western world, British citizens of all ages (including children) have legally gambled on coin-operated machines in Britain. It is not that British arcades grew to facilitate child gambling, but that the 1960 Act enabled British arcades to become entertainment destinations containing activities for the entire family, for adults as well as children; furthermore, the income from this machine mix of gambling, amusements, and eventually videogames became central to the profitability and survivability of the arcade.

While the mythic arcade feeds upon nostalgia for North American arcades of the past, in Britain, the amusement arcade remains culturally and economically visible and valuable. A 2019 Centre for Economics and Business Research report produced for BACTA estimated that British seaside arcades generate more money by themselves than radio advertising or rail freight.[44] Despite these factors, the story of the development of the British arcade industry, its global resonance, and the impacts of legislative, historic, and social factors have not previously been told. At the same time that the mythic arcade has dominated discourses around arcades and videogames, the British industry itself has remained private, closed, and largely absent from discussions of the development of public play. *Arcade Britannia* is an attempt to address this shortfall, to tell part of the story of the British arcade, and to chip away (if only infinitesimally) at the foundations of the mythic arcade.

2 From Showfolk and Sanddancers to the 1960 Gaming Act

In 1897, Queen Victoria's Jubilee year, George Barron Sr. opened The Jubilee Exhibition arcade overlooking the beach at the popular holiday resort of Great Yarmouth (see figure 2.1). Barron, a Norwich-based former bicycle manufacturer,[1] had married into a family of travelling showfolk[2] and had been operating film viewers and other coin-operated amusements across South-East England for two years prior. The Jubilee Exhibition contained many things you might associate with a more modern arcade: a rifle range, electrical engraving machine, slot machines, and mechanical models.[3] But it also contained entertainments that betrayed its connections with the fairground: fortune-tellers, a fancy bazaar, a moving picture show, a steam-driven mechanical organ, and a host of living exhibits, including The Harem and Beautiful Marie, the Giant School Girl.[4]

The Jubilee Exhibition was only planned to commemorate Queen Victoria's Jubilee, but it proved so popular that the Barrons made it a permanent enterprise. Disaster struck three years later, on September 5, 1901, when fire spread from an adjacent barbershop, entirely gutting the early arcade. Despite being declined insurance coverage, the Barrons reinvested and rebuilt the site. They appointed a local architect, A. S. Hewitt, whose brief was to design what is considered the first purpose-built amusement arcade in Britain.[5] The building that opened in 1902, initially called the Marina Picture Palace, focused on moving-picture machines and cinematic projections but inevitably included amusements and early gambling machines as well.[6] By 1912, the Barrons, now trading as the Inter-Changeable Syndicate,[7] owned several similar arcades across London, including sites in Westminster, the Strand, and Kingston-on-Thames. They had also built a reputation as machine manufacturers and traveled throughout the country with their

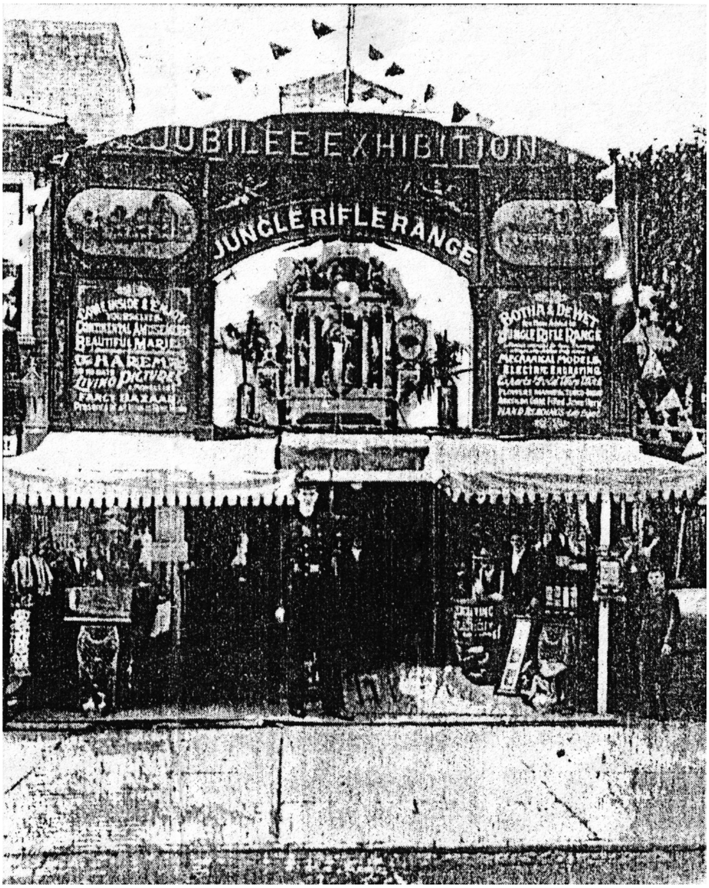

JUBILEE EXHIBITION
JUNGLE RIFLE RANGE
COME INSIDE & ENJOY
CONTINENTAL AMUSEMENTS
BEAUTIFUL MARIE
OF HAREM
LIVING PICTURES
FANCY BAZAAR
BOTHA & DE WET
JUNGLE RIFLE RANGE
MECHANICAL MODELS
ELECTRIC ENGRAVING

Figure 2.1
Barron's Jubilee Exhibition/Paradium, approximately 1897. After a fire in 1901, the site became the first purpose-built arcade in Britain. Nic Costa Archive, CCCU.

version of Edison's kinetoscope, called the Kaleidoscope. The Barrons represented the key roles of the emerging coin-operated trade: they were operators, placing their machines for public use on the sites they owned and those owned by others for a share of the profits; they were manufacturers of coin-operated machines; and they were distributors—selling machines to others.

The Barrons' experience in this new trade was not entirely positive. In 1912, George Barron's son William was arrested for "exhibiting indecent automatic pictures"[8] in the Kaleidoscope machines, as well as for "unlawful gambling by means of coin-operated games of chance."[9] His arrest betrays the concerns that have surrounded arcades forever—questions of negative influence, anxiety over the decency of amusements and machines, and fears about the dangers of gambling. In 1919, with Britain in an economic depression following World War I, the Barrons sold their London arcades and focused their business on Great Yarmouth, where public attitudes appeared more relaxed.[10] The Marina Picture Palace was renamed the Paradium in 1923, filled with coin-operated amusements as cinemas became more common (see figure 2.2).[11]

Eventually, the Barrons purchased multiple arcade and amusement sites across Norfolk and Suffolk, and the Paradium was updated and renovated as popular tastes in décor and amusements changed. It witnessed the arrival (and decline) of many amusement and gambling technologies:

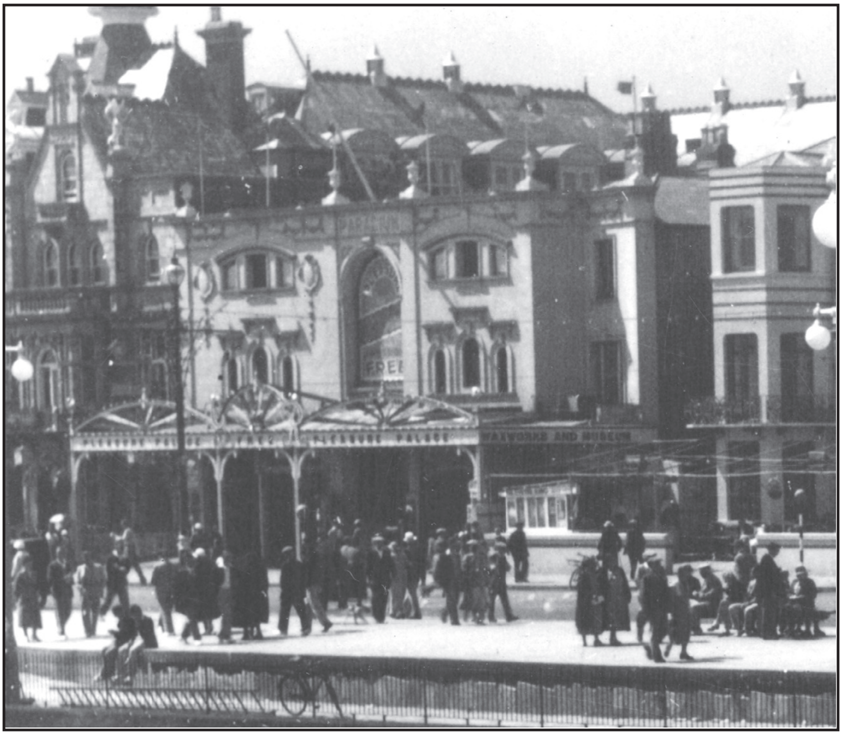


Figure 2.2
Barron's Paradium, approximately 1930 (detail from a postcard). The rebuilt Jubilee Exhibition was the first purpose-built arcade in Britain. Author's collection.

fruit machines, pintables (a bagatelle-like precursor to the pinball machine, where the player tries to get balls into scoring areas of a play surface covered in obstructing metal pins), bingo, coin-pushers, pool, videogames, and ticket-based redemption machines. The arcade remained family-run until 2004 (when it was operated by George Barron's great-great-grandson, Stanley Barron). By March 2019, the building had been split into two premises, one of which was the Gold Rush arcade. Barron's Great Yarmouth Paradium site is, therefore, not only the first purpose-built arcade, but perhaps the longest-running amusement arcade in Britain. For over 120 years, it has been open so that the public can stick coins into machines, be amused, and perhaps have a bit of a gamble.

British Arcades and Showfolk

It is impossible to understand the British amusement arcade without having some awareness of showfolk as a cultural minority, their long association with British leisure, and the hostility that they have faced. It is likely that almost every British amusement arcade was run by showfolk, or those closely associated with them. The British arcade is best understood as a direct descendent of traveling fairs, as a continuation of a centuries-long tradition closely associated with a cultural minority[12] rather than a product of the white heat of entertainment technology. In the mid-to-late twentieth century, many showfolk stopped traveling and opened arcades like the Paradium at seaside resorts around Britain. Those who did so became known by other showfolk as "sanddancers" or "sandscratchers,"[13] and the links between sanddancers and traveling showfolk remains strong to this day. A history of the British arcade, therefore, must begin with a discussion of showfolk. In the opening to his 1971 book, *The Travelling People*, Duncan Dallas described British showfolk as an "almost closed society, which differs so much from that of the 'flatties' from whom it earns its living."[14] The term "flatties," used to describe people who aren't travelers, is pertinent here, offering an indication of the profound sense of difference that many showfolk see in British society.

Itinerant traveling fairs have been a feature of British culture for at least 1,000 years, and many showfolk can trace generations of fairground ancestry. In the eleventh century, William the Conqueror, then king of England, introduced royal charters that formally permitted fairs, charging those who organized them a fee to be paid to the Crown and elevating their civic function. The rights to a charter became valuable and highly prized, and those in possession of charter rights had the option to continue the following year. As a result, charter-holders generally retained ownership rights, and those that did—the showfolk—became a professional community of entertainers, fair organizers, and amusement operators. More than 4,860 charters were established by monarchs between 1200 and 1400,[15] generating important revenue and ensuring that the fair became a feature of British life no matter where somebody lived.

The arrival of a charter fair, with its unpredictable mix of entertainers and goods, was a noteworthy event in the seasonal calendar, serving an important social and economic function. Fairs brought novelty, spectacle, merriment, trade, news and entertainment and, perhaps most important, a temporary relaxation of normal social protocols. Fairs attracted visitors from neighboring towns and districts to be entertained by conjurers, musicians, acrobats, performances, foreign traders, games of skill, spectacle, and perhaps, in its darker corners, the odd bet and wager. This influx of merrymakers into the often small rural villages meant that there were rarely enough authorities to police the disagreements that inevitably erupted on the fairground. And as a result, British fairs were policed by a "Piepowder Court,"[16] made up of the showfolk, the local mayor, and a few other dignitaries. The fair remained largely autonomous and self-governing, a place for novelty, merriment, relaxation, and frivolity—alluring, exotic, and distinct from mundane life.

The Industrial Revolution disrupted the pattern of traveling fairs by depopulating rural areas and swelling urban areas with factory workers, and urban fairs expanded to meet the demand. St. Bartholomew's Fair, held over four days in September in Aldersgate, City of London, became one of the largest urban fairs of the time. An 1808 engraving from Rudolf Ackerman's *The Microcosm of London*[17] shows St. Bartholomew's Fair in full flow, with swing boats, carousels, horse-and-people-powered Ferris wheels, and theatrical performers.[18] This mix of entertainment was consistent until the invention of the steam-powered roundabout by Frederick Savage in 1868, which radically changed the character of the amusements found at the fair. Steam-driven fairground machinery was larger, stronger, and faster, able to support more punters and make more money. This was industrialized public entertainment, echoing the powerful machines that workers toiled on during the day, and the showfolk who embraced these new technologies profited (see figure 2.3).

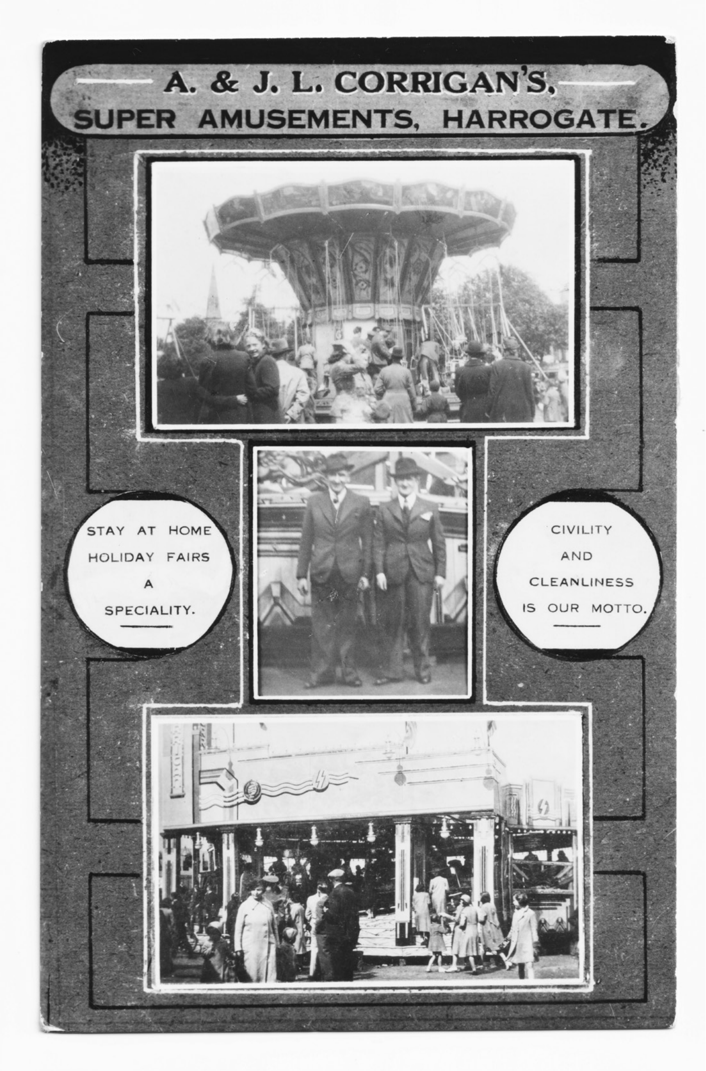

A. & J. L. CORRIGAN'S,
SUPER AMUSEMENTS, HARROGATE.
STAY AT HOME HOLIDAY FAIRS A SPECIALITY.
CIVILITY AND CLEANLINESS IS OUR MOTTO.

Figure 2.3
A. & J. L. Corrigan's Super Amusements, approximately 1920. The Corrigans were British showfolk who made a successful transition into arcade ownership. This postcard from the mid-1920s advertises their fairground operation services, and while the bottom image shows a fairground ride, its similarity to an arcade is clear. Author's collection.

Showmen typically traveled as a family, operating a single, large amusement ride with a traction engine. When fairground machinery became too large for a single family to safely erect and transport, they would acquire hired help known as "gaff lads" to do the heavy lifting.[19] But the size and weight of the machines in traveling fairs created a conundrum—while muscle was needed to move, erect, and dismantle fairground entertainments, the extra hands were not needed to operate the rides. In response, showfolk introduced and expanded side stalls with smaller entertainments that maximized income, utilized available labor, and kept visitors entertained while they waited their turn on the larger rides. It was this pattern of technological adoption and side stalls that created the seeds of the modern British arcade.

The most spectacular and advanced entertainments made the most money, and showfolk became preoccupied with entertainment technology, whether on the rides or the sideshows. Showmen sought new rides, new games, and new spectacles and were quick to adopt and refine their offerings as technologies appeared. When the traveling fair season ended, showfolk would return to static locations to maintain, develop, and purchase entertainments. During the winter months, showfolk had traditionally opened temporary indoor venues, known as "gaff shops" or "penny gaffs," where fairground amusements and attractions were available to the public. Gaff shops were essentially workshops situated wherever rent and space were affordable, where machines needing maintenance could be fixed and those that functioned might generate some income. Gaff shops included "freaks, curiosities, peep shows, waxworks, and almost anything that could attract an audience."[20]

The growth of British urban fairs coincided with the Victorian era and the rise of conservative attitudes and preoccupations of moral decline; consequently, the fairs were increasingly regarded as a corrupting and dangerous threat to public morals. A description of St. Bartholomew's Fair from the early 1800s offers a sense of this threat: it speaks of the "vast quantities of alcohol"[21] being consumed, and an 1825 publication characterized fair visitors as "idle people" and warned of the presence of "loose women," "vagabonds," and "thieves and pickpockets."[22] Showmen involved in the fair were subject to similar suspicion, seen as exploitative and untrustworthy, and these attitudes led to calls to discourage and shut fairs down. St. Bartholomew's Fair, perhaps the largest and most famous of the British fairs, closed in 1855.

Many well-meaning members of the Victorian middle classes took on the role of moral champions for the working classes, guiding them toward "rational leisure" and self-improvement through legislative moral reform.[23] Gambling became a major preoccupation of the authorities and moral champions. Once more, following pressure from lobbyists, the British Government introduced the 1845 Gaming Act and the 1853 Betting Act. These two pieces of legislation made gambling illegal outside of gaming clubs (which had membership fees, dress codes, and nomination processes), and betting illegal outside of racecourses (which were few in number and expensive to travel to). The hurdles of travel, costume, and nomination required money, connections, and leisure time, and the acts therefore made gambling disproportionately inaccessible to the working classes—a prime example of Victorian moral reform in action. In 1856, the Police Act was introduced, which required each region to establish a professional police force, and this further affected the regulation of gambling and the development of the arcade. To demonstrate their effectiveness, each police force was required to report crime detection statistics against quotas. Faced with the need to meet crime detection quotas, formerly overlooked infractions such as low-stakes gambling, drunkenness and disorderly conduct became legitimate ways of proving efficacy.

In 1888, a moral reformist called George Smith, Minister of Parliament for Coalville, North West Leicestershire, proposed the Movable Dwellings Bill, which directly threatened the showfolk's way of life. Smith had successfully proposed the Canal Boats Act four years previously, which all but eliminated the lifestyle of itinerant canal workers, who traveled the waterways of Britain to work on construction projects. The Canal Boats Act required each narrowboat to be registered with authorities, for boat-children to attend local schools, and for minimum sanitation standards to be introduced. Any violation resulted in the revocation of the boat license, which prevented canal workers from traveling to their next construction project. Smith's Canal Boats Act was heralded by many as a pioneering law that led to social reform and childhood protection, but it brought a swift end to the canal worker's way of life. The Movable Dwellings Bill now threatened the showfolk's ability to travel as a family, and if passed, it would have resulted in the end of the British traveling fair.

Showmen formed the Van Dwellers' Association to fight Smith's bill, and by 1894, they had successfully defeated it. Despite their victory, showfolk recognized that attempts to suppress the fair and their way of life came from prejudice and were likely to continue. In 1911, the Van Dwellers' Association was renamed the Showmen's Guild of Great Britain, becoming the official trade union of showfolk by 1917. Shortly after, Thomas Murphy, secretary of the Showmen's Guild, characterized the relationship between reformists and showfolk as "a defensive war" with "no prospect of either peace or an armistice."[24]

Coin-Operated Machines at the Fair

The late 1800s are regarded as the "automatic age,"[25] where machines were manufactured to dispense with much of the manual labor needed in the retail and service trades. Many of these machines were coin-operated. There were suddenly coin-operated weighing and measuring devices, newspaper and cigarette dispensers, and early photographic, stereographic, and moving-picture viewers. These included Dickson and Casler's Mutoscope of 1894, more often known as a "what the butler saw" machine (essentially a drum-fed photographic flick-book that sometimes included risqué material); Haydon and Urry's Autocosmoscope of 1896, a coin-operated stereo picture viewer; the Lumiere brothers' Cinematograph, a combined moving picture camera and projector; and Barron's Kaleidoscope.[26] Amusement and gambling were ideal activities for the automatic age, as machines generally contained no stock that could spoil. Providing that the coin boxes were sturdily designed and periodically emptied, multiple coin-operated gambling machines could be operated with only minimal supervision, and this made them an ideal fit for fairground side stalls. The machines were new and entertaining, and the sideshow tents soon challenged the income of traditional fairground rides. At the 1897 Coventry Fair, coin-operated automatic machines, fortune-telling automata, and punch bags "caused desertion of the customary attractions."[27] Recognizing where profits could be made, showfolk began purchasing, importing, and even manufacturing, patenting, and selling new coin-operated machines to meet the demand. Others saw opportunities to site machines in cafés, pubs, or shops on a profit-sharing basis, so some showfolk became early coin-operated machine operators. By the early 1900s, machines were everywhere in Britain; however, the unavoidable issue was that many of the machines on fairgrounds or gaff shops, sited in pubs and cafés, and imported, manufactured and sold by entrepreneurs, violated the 1845 Gaming Act.

Early machines included Frank Urry's 1892 *Tivoli* machine, where an inserted coin was spring-fired into the machine's playfield, covered in pins and cups. Pins disrupted the coin's path so that it either fell off the edge of the playfield, landed in a cup that returned it, or triggered the release of a prize from the bottom of the machine. These machines were popular and copied extensively throughout Europe, with the Saxony region of Germany becoming inexorably linked with their manufacture. Many machine designs adopted "elements of skill in the outcome, rather than simple chance" to circumvent gambling laws.[28] Other devices limited the jackpot, returning a player's coin or giving a repeat play. In 1900, Henry Pessers replaced the static cups of the *Tivoli* with a moveable cup controlled via a knob, becoming known as the *Pickwick*.[29] The *Pickwick* was subject to a landmark case in 1912, where Judge Thomas Edward Scrutton deemed the machine a game of skill rather than chance, and therefore legal under British gambling law.[30]

The *Pickwick* became hugely popular on and off the fairground, and its inclusion of elements of skill became a routine (if rather flimsy) defense throughout the industry. Machines containing elements of skill were operated on fairgrounds and early arcades under the assumption that they were legal, but this could not be proved until a machine had been tested at trial. The popularity and profitability of these machines were so great that they were soon widely available—both on the fair and throughout everyday British life.

Coin-Operated Machines Beyond the Fair

With gambling games seemingly everywhere (in public houses, shops, and arcades), the British government took action. There were many prosecutions, especially in major cities, including that of a sweet-shop owner in 1903 who offered a game of chance machine for his customers. In 1906, the government approved the Street Betting Act, designed to finally eradicate working-class gambling, which was enforceable by the police. However, the Street Betting Act proved disastrous on multiple levels. The police were concerned by the impact of enforcing the law, especially within large working-class populations. The act was seen as "a general threat to police-community relations due to popular antagonism to the enforcement of anti-gambling laws,”[31] thus risking the increase of working-class disorder at a time when class relations were a concern (the period between 1910 and 1914 became known as the Great Labour Unrest, marked by several strikes and violent protests bringing major docks, transport, and mines to a halt and involving almost half a million protesters).[32] Despite being made aware of police concerns, the British government did not amend the law. Instead, police officers were advised to use discretion in their application of the law in the districts that they policed. The Canadian scholar Michael Ignatieff described the situation: “each neighborhood, and sometimes street by street, the police negotiated a complex, shifting, largely unspoken ‘contract.’ They defined the activities they would turn a blind eye to, and those which they would suppress, harass, or control.”[33]

This created the peculiar situation that since their invention up until the 1960 Gaming Act, coin-operated gambling machines were inconsistently regulated throughout Britain; people understood that they might be illegal, but the tolerance demonstrated by the police challenged this idea. Undoubtedly, the knowledge that these games might be illegal made them even more seductive, and coin-operated gambling became a peculiarly British illicit thrill.

Gaff-Shops—Static Fairgrounds

The economic, social, and legislative conditions that developed around coin-operated machines made static arcades viable, and entrepreneurial showfolk began offering static venues for coin-operated machines that were known as “funlands” or “sports arcades.” One example from 1906, Wheeler’s Wonderland in New Brighton, boasted “fine art and illusion exhibitions, models, and 112 penny-in-slot machines.”[34] It is important to stress that not all coin-operated machines had a gambling element, but they made up an important part of the diversity of a funland’s machine mix. Proprietors were occasionally accused of offering illegal machines (as was the case with William Barron) and running illegal gambling dens. The profusion of machines presented the police, machine owners, proprietors, and even players with uncertainty. The permutations of the police officer’s dilemma were mind-boggling: did a machine constitute amusement or gambling; was it a game of skill or chance? If it appeared to be a gambling machine, how would the law be applied in this specific neighborhood?

What would the implications of enforcement be in this district? What were the mood and makeup of the residents? And finally, how were this month's crime detection quotas looking?

In his catalog of British amusement machines, the fairground historian Paul Braithwaite observes that "in general it was not the practice to interfere unless the amount of gambling became substantial or there was some evidence of fraud,"[35] but still there were prosecutions. The proprietor of The Funneries sports arcade on Cavendish Street in Manchester, James Frederick Matthewson, was subject to prosecution in 1904 and charged with keeping an "unlawful gaming house,"[36] while the traveling showman William Roberts was summoned to court on similar charges in 1909. Roberts expressed dismay, having "been all over the country with these machines, to many places where he had been visited by the police, and this was the first time any coin returned machines had been alleged to be gaming machines."[37] Despite his dismay, he was charged and fined. The risk of prosecution led arcade operators to carefully consider the types of machines they sited and observe their clientele. They prioritized a combination of amusement machines and those with jackpots, often referred to as "automatics," and machines that could easily be removed if the police were in the area. Braithwaite observed that "anyone foolish enough to parade nothing but automatics was asking for trouble."[38]

Even when people were apprehended by the police, "fines were low and no deterrent,"[39] and patrons were released with only a warning. While the police had the authority to seize machines, they could not confiscate the takings inside them, and the machines were so heavy that confiscation was back-breaking work. Despite this, prosecutions continued throughout the early twentieth century, especially in London, and this made arcade operation in the capital a risky and disruptive experience. As a result, in 1916, amusement operators, including the Barrons, established an "Automatic Defence Fund to fight police harassment,"[40] and formed the Amusement Caterers Mutual Benefit Society, the British arcade industry's first trade body. For those involved in the early trade, police attention and the risk of prosecution became part and parcel of business. In this climate, the public became accustomed to the availability and illicit thrill of coin-operated automatics in shops, pubs, and cafés, pleasure piers, fairgrounds, and both seasonal and year-long arcades, and low-stakes machine gambling became a national pastime.

From the late 1800s onward, the traditional British traveling fair introduced coin-operated machines alongside fairground rides, food stalls, entertainments, carnival games, and photographic and film projections. Showmen were the pioneers of popular entertainment technologies; they understood what the public enjoyed, and many had made sizable investments in coin-operated machines. They had enough room—whether in a fairground tent, gaff shop, or playland—to offer the machines to large numbers of people for much of the year. It was, therefore, showfolk who popularized the new, coin-operated entertainment technologies and drove the development of the British amusement arcade. Some machines violated gambling laws, but this was open to interpretation and often ignored by the police; meanwhile, for some, the traveling fair, showfolk, and the machines they operated constituted a risk to public morals.

Urban Arcades, Seaside Arcades

The arcade is an important feature of a British seaside resort. During the 1800s, seaside resorts became popular. In South East England, many Londoners traveled on cargo boats, known as "Hoys," to the once-refined seaside resorts of Margate and Ramsgate. Disembarkation numbers at Margate Pier and Harbour Company, rising from 17,000 in 1812–1813 to 105,625 in 1835–1836, give a sense of the popularity and growth of these areas;[41] the arrival of inexpensive rail travel during the same period bolstered these numbers further. Margate, the largest resort on the North Kent coast, was advertised as a "cheery, bright, life-loving, and not too constrained seaside resort, with all the materials for healthy enjoyment and abandon."[42] Its clientele was initially aristocratic, but it soon became far more working class, regarded by some as "essentially a product of Cockney London."[43] The introduction of the 1871 Bank Holiday Act gave workers an additional four days' leave, and this resulted in large numbers of visitors flocking from the cities to seaside resorts. The influx of working-class visitors at once-refined seaside resorts created significant tension. Entertainments normally associated with the fairground sprang up wherever they could be sited, often on the unregulated beaches. Seaside entertainment at the time included the following:

> Waxwork shows featured all the latest murders; exhibitions displayed freaks of nature, human or animal; stalls featured "sickening prints of skin diseases"; "art galleries" in wooden sheds showed pictures with such themes as "The Goddess

> Diana and her hunting party"; phrenologists, quack-doctors, and corn-cutters colonized foreshores, alongside more orthodox fairground attractions; penny-in-the-slot machines appeared, some exhibiting "a very suggestive looking picture"; and singing-saloons in back-street public houses posed a more immediate threat to the morality of young visitors.[44]

Whereas showfolk had to purchase charters or negotiate pitches at the fairground, there was no protocol to regulate trading and entertainment on the beach (see figure 2.4). There was confusion over who had jurisdiction to control entertainers' access on the sands until the early 1900s, when councils started regulating their beaches, commons, and greens. An 1895 audit of Blackpool foreshore by the town clerk gives a sense of the scale and type of entertainments on the beaches:

> 316 "standings on the foreshore," including 62 fruit vendors, 57 stalls selling toys, general goods and jewellery, 52 ice cream stalls, 47 vendors of sweets and refreshments and 21 oyster and prawn dealers. Entertainments included 36 photographers and exhibitors of "photographs, kinetoscopes, picture views, stereoscopes and telescopes, 24 ventriloquists and phrenologists, six quack doctors, six musicians and five conjurers."[45]

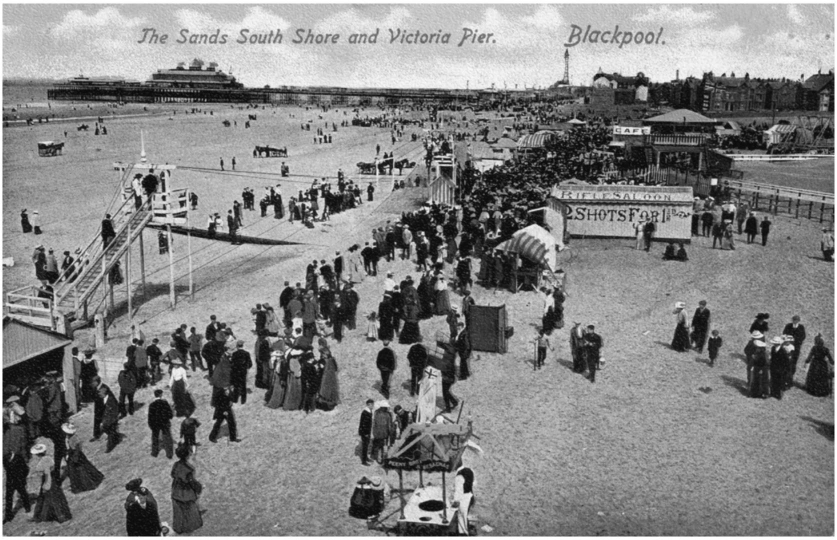


Figure 2.4
Postcard showing Blackpool's South Shore; note the number of traders and entertainers on either side of the high-tide line. Author's collection.

For thirty years before beach entertainments were brought under control, the availability of illicit pleasures—the grisly, the garish, the suggestive—and the mindset of the fair began to be viewed as part of the character of the British seaside resort. From the early 1900s though, showfolk wishing to entertain seaside holidaymaking crowds had to apply for scarce foreshore trading permits or obtain business premises on the promenades, pleasure piers, and side streets of seaside resorts. Showmen, who had made good money in the wildlands of the beaches, began to rent or buy seaside premises to offer their amusements to the public, creating playlands, and Barron's Jubilee Exhibition was one of these.

Some showfolk made considerable profits from the seaside trade; the affluent showfolk George Sanger and William Bean established Margate Dreamland and Blackpool Pleasure Beach seaside amusement parks with the money they made. Those who hesitated, lacked collateral, or couldn't find the opportunity to do so found themselves excluded from the most popular and profitable seaside resorts. By the time that Barron opened the Jubilee Exhibition, the seaside had taken on much of the character of the traveling fair and was seen as a site of license and frivolity, but not so much as a risk to public morals. If the amusement park was the traveling fairground relocated in a static, often coastal site, the arcade was the fairground side stall in isolation.

The early 1900s saw enormous arcade growth along the coast and in metropolitan areas that could guarantee visitor numbers, including central London and Manchester. In London, the area around the West End, Piccadilly Circus, and Leicester Square had several arcade playlands during the 1910s and 1920s, and it became synonymous with the pintable machine. When playing a pintable, the precursor to the pinball machine, the player shoots balls up an angled playfield that has pins nailed into it. The player is awarded points based on how many balls land in score cups, and this is used to generate a total. Some machines had automatic totalizers, while others required an attendant to verify scores, record them on a chalkboard, and issue prizes (often cigarettes). Pintable saloons also contained other notable machines of the time, including the "Saxony" *Allwin* machines.

Arcades During the War Years

The opening of hostilities in World War I immediately ended the importation of German-built *Allwin* machines, and some German machine importers faced imprisonment. World War I was catastrophic to the lifestyle of the traveling showfolk, and most fairs were suspended. Because of their expertise with heavy transportation, showfolk were often involved with logistics, being called on to deliver munitions, artillery, and tanks to the front. While the fairs were suspended, amusement machines in locations such as shops and cafés remained accessible and popular. According to Paul Braithwaite, in 1915, there were "six to seven hundred machines in the borough of Salford. In Birmingham, the figure was estimated at 1100."[46] The 1916 trial of a barber who had installed a slot machine deemed in violation of gambling laws told a similar story, stating that "there were some three hundred similarly placed machines in Gloucester alone!"[47] During the war, one of the most prominent London arcade owners, Arthur "Ginger" Burrows, relocated to Brighton on Britain's south coast to open the Sports Arcade (see figure 2.5). According to Nic Costa, undoubtedly the expert in the early British coin-operated industry, from here Burrows forged strong links with American machine manufacturers, imported machines, and was subject to prosecution.[48]

At the end of World War I, British machine manufacturers attempted to fill the void left by German imports, but American machines came into Britain in such high numbers and low costs that they dominated the industry. During the war, the US had been gripped by a widespread temperance movement, resulting in Prohibition with the ratification of the Eighteenth Amendment to the Constitution in 1920. With their home market in absolute contraction, American fruit machine manufacturers such as Jennings and Mills, based out of Chicago, identified Britain as a prime export market. American machines were converted to accept British coinage, their jackpot systems were neutered, and distribution offices were founded to sell the machines. American automatics were enormously popular throughout the 1920s and 1930s, and according to Nic Costa, "many were converted back into gambling machines regardless of the strictures of the law."[49]

While imported American automatics were endemic, a different machine mix prevailed at the seaside, including amusement-oriented games made by the few British manufacturers who were able to turn a profit. These included *Punch Ball* machines and two-player *Marathon Cycle Race* machines, where each player cranks a handle to move a cyclist around a circular track, returning the winner's coin at the finish line; both were made by Charlie Ahrens. Others included mechanical football machines housed in cast iron

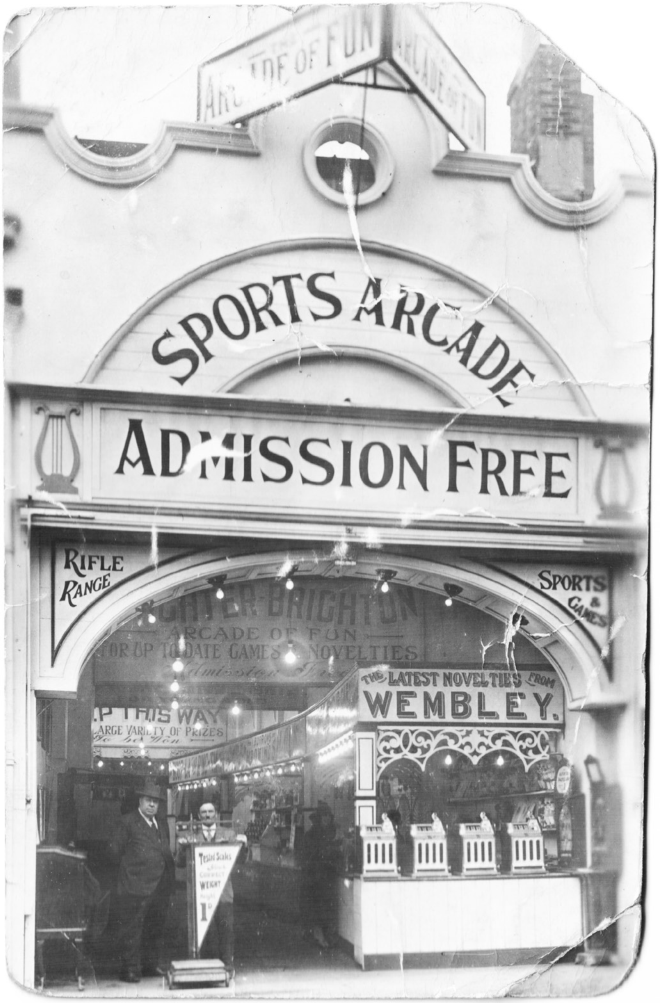

ARCADE OF FUN
ARCADE OF FUN
SPORTS ARCADE
ADMISSION FREE
RIFLE RANGE
SPORTS & GAMES
BRIGHTON
ARCADE OF FUN
FOR UP TO DATE GAMES & NOVELTIES
Admission Free
UP THIS WAY
LARGE VARIETY OF PRIZES
To be Won
THE LATEST NOVELTIES FROM
WEMBLEY.
CORRECT WEIGHT
1D

Figure 2.5

Arthur "Ginger" Burrows's Sports Arcade, Brighton 1927. Burrows was an arcade pioneer, and his Sports Arcade, which opened during the mid-1910s, became one of the most famous arcades of the time. Nic Costa Archive, CCCU.

cabinets, plus the ubiquitous "what the butler saw" Mutoscope machines. These machines were produced by a small number of pioneering manufacturers, including Philip and Morris Shefras, Wondermatics, Stan Bollam of AMECO, Bryan's Automatics, the Streets Brothers, and Ahrens (who also made wonderfully macabre automated dioramas such as the *Execution*).

In the 1920s and 1930s, a small number of machine salesmen and importers were established around Fetter Lane, London, and the best known became central to the development of this new industry. Key companies included the Burrows Supply Company, Fetter Lane, Frederick Bolland's Bolland's Amusement Machine Supply Co. Ltd, Camberwell, and Samson Novelty Company, Tottenham Court Road, which was founded in the mid-1920s by Jack Holloway. Trade materials from the Holloway was instrumental in the creation of the Automatic Machine Operators Society, another early trade organization.[50] Entrepreneurs such as Burrows, Bolland, Holloway and Phillip Shefras set to importing and converting the American automatics, selling them alongside the novelty machines that they made themselves. An automatic map of London printed in 1934 (see figure 2.9) shows no fewer than fifty-two different coin-operated machine manufacturers and distributors, and twenty-one amusement arcades in central London alone. Many of the companies and locations detailed in the automatic map became critical to the later development of the amusement arcade in Britain.

By the 1930s, amusement arcades had become a popular element of seaside holiday entertainments (see figure 2.6), but unlike in the US, the prevailing popular association was to holiday hijinks rather than organized crime. However, there were some pockets of opposition to coin-operated gambling: to avoid an issue with the law, and seeking the next amusement trend, British showfolk and arcade operators turned to the pintable. Pintables such as Bally's *Ballyhoo*, the precursor to their later pinball machines, grew to craze proportions, and virtually all businesses in the coin-operated trade adopted them. Jackpot fever, the visible growth of automatics and pintables across Britain, and especially at the 1927 Olympia Fair, became a concern and embarrassment for the government. As David Miers sets out in *Gaming Machines in Great Britain*, outside of the seaside resorts and fairgrounds, the police and magistrates took action against the large profits being made by running illegal machines. The income was significant,

> estimated at between £20–£200 a week from some 20,000 machines sited in clubs, tobacconists, hairdressers, and Thames cruisers. Police outside London similarly

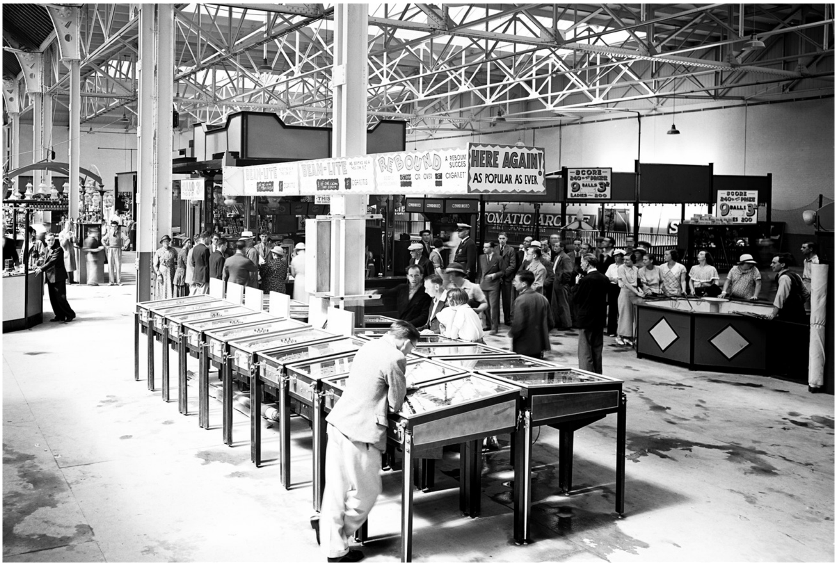


Figure 2.6
Ramsgate Merrie England amusement arcade, 1930s. This arcade was based in a former train station. Note the pintable machines (center) and the blend of traditional side stall games. This is a larger version of the "gaff shop" arcade or playland. South East Archive of Seaside Photography, CCCU.

> appeared to be active in prosecuting club, and even holiday camp proprietors. Unlike the prosecutions against funfair proprietors, magistrates responded more cooperatively with the police's efforts, at least where the machines were a principal attraction on the premises, often imposing the maximum £500 fine.[51]

Despite these risks, the arcades and pinball saloons grew in number; there were more than 250 in London by 1939, and the main streets of Piccadilly, Oxford Street, Regent Street, and Bond Street, were described as "a district of exhibitions, funfairs, and side shows of all kind."[52] At the outbreak of World War II, Britain took steps to defend against German naval invasion. To prevent their use as landing points for invading troops, the cast-iron seaside piers had sections removed, severing them from the mainland; and elsewhere, seafront parades were requisitioned and militarized with gun emplacements and barracks. At many resorts, some arcades and seaside amusements closed, and for these, World War II proved to be a very lucrative time.

In his history of Bridlington's Joyland arcade, Nick Laister described the resort as "empty of tourists during high season" and "suffered serious bombing," but that "the impact of the War on Joyland was largely positive, and the business prospered throughout the War years."[53] The wartime blackout policy was a challenge for the typically bright and noisy arcades, and Joyland overcame this problem by installing a concertina-shaped light trap. Many arcade workers enlisted in the armed forces, so the arcade ran on a skeleton staff, but the situation was "ideally suited to forces personnel with money to spend during brief leave periods."[54] Laister regarded the war years as central to Joyland's later peacetime growth, seeing a "combination of high spending military personnel and minimal staff costs that resulted in the arcade's wartime success."[55] Arcades that were not damaged by bombing and those located in places with stationed servicemen were in a strong position.

The postwar years brought a renewed public desire for holidays, and the coast returned from the front lines of invasion to the backdrop of relaxation and frivolity. There was expansion of holiday camps, such as Butlins, and domestic adoption of the motorcar. As Britons became more mobile, some regarded the traveling fair as an anachronism, and district councils began to relocate fairgrounds and close fairs in the name of postwar urban regeneration. Simultaneously, the coin-machine industry expanded to supply entertainments at holiday camps and embraced the jukebox. Many machines were destroyed or fell into disrepair during the war years, but replacement parts and manufacturing materials were difficult to obtain. Strict controls over foreign currency exchange purchase, introduced to protect the British economy during the war, were still in effect and remained so until 1961. These made it expensive and difficult to import machines and components into Britain, and the hungry arcade industry was forced into a "make do and mend" stance throughout much of the 1950s. When American machines and parts did enter Britain, they commanded premiums, and those who discovered ways to import them made a great deal of money.

The trade was so lucrative (and the global presence of American machines so great) that the most surprising importation routes and sources were discovered and then exploited. For example, in the late 1950s, the West German government introduced manufacturing stimulus initiatives that resulted in coin-operated machines being removed from circulation after three years of operation. Around 1958, the Norfolk showman David Bailey discovered the German situation. His son, Freddy Bailey, described his experience that led him into British coin-op manufacture and distribution: "he could not believe what he saw, there were virtually thousands of perfectly good fruit machines just piled up at the back of the German distributors [*sic*] warehouses, they were offered to my father for just a few pounds each, and so started our getting into the coin machine business."[56]

Word of the fantastic business opportunity soon spread, and many British showfolk and entrepreneurs joined in, driving up the cost of the German machines. Bailey's friend Jimmy Thomas explained, "all of us, were going all around Germany, and buying them for about 20 quid apiece, converting them onto English coinage and selling them on."[57] There was still plenty of demand, plenty of machines, and plenty of profit to be made. The fact that these machines might have illegal jackpots was simply an issue to address through modification and conversion (that might be reversed by purchasers). The Bailey family set up a business importing and selling the German machines, and by 1960, David Bailey was exhibiting these machines at the Amusement Trades Exhibition in London. By the same time, Freddy had set up a workshop in Chesterfield, converting used American Mills fruit machines that he imported into Britain—twenty machines a week. The Baileys eventually moved to Mundesley-on-Sea, where they ran the conversion business from the workshop of the family arcade.[58]

In 1951, the Corporation of London unveiled the Festival of Britain, a celebration of all things British and an attempt to put the horrors of the war years to one side. The festival's attractions were mostly educational and entirely nationalistic and moralistic, celebrating British industry, engineering, and scientific endeavor. Nearby, the Battersea Park Pleasure Gardens and funfair opened as a frivolous antidote to the festival's moralizing, inviting its patrons, still subject to wartime food rationing, to revel in excess:

> Sustained by jellied eels, doughnuts, hot dogs and hamburgers, crisps, waffles and fritters, nuts, popcorn, toffee apples, brandy snaps, shellfish, candy floss and Festival Rock, all on sale at kiosks or the Festival Fare snack bar, you'll find some 70 games where prizes are to be won as you roll, bowl or pitch, shoot, spin, ring or fling.[59]

The Pleasure Gardens included rides, galleries, beer gardens, bandstands, a big dipper, a marketplace, the Fun House, and the Haunted Mirror Maze. Battersea Park Pleasure Gardens was run by showfolk, and with the public demand for coin-operated machines, boasted many arcades. One London teenager, Colin Mallery, whose parents moved to Battersea, became fascinated by an arcade in the Pleasure Gardens owned by Ruffler & Walker. After loitering in the arcade for long periods Mallery, then only fourteen, was offered a part-time job assisting on the site by early coin-machine pioneer George Walker and enthusiastically entered the amusement trade. At Ruffler & Walker, Mallery gained a range of experience: working at the Battersea Park Pleasure Gardens, doing sales and marketing work, and in the winters spending time in the company's Fulham factory learning how machines worked. Mallery's progress in the industry over the subsequent decades was profound, going from part-time arcade-helper to director of the largest coin-operated distributors and manufacturers in the world, but perhaps most important, it provides a prime example of the opportunity that the coin-operated industry offered.

In Britain, the postwar arcade landscape was mixed. There were some large premises in major cities such as London and Manchester, including those around Leicester Square and Piccadilly Square in London, which had become a hub for arcades. In Piccadilly Circus, there was a large arcade called Sterling and Michaels, which had a live shooting range downstairs in the basement. Mallery explained: "It took fortunes. It took absolute fortunes. In the 1950s, I was a kid when I went there. Of course it got closed down with licensing and guns, and stuff like that." There were smaller seaside arcades at almost every significant seaside resort around the country, some of which were based in traveling fairs and amusement parks such as Blackpool and Margate. For those unlucky souls who didn't have an arcade nearby, it was likely that pintable, coin-operated amusements, or indeed illicit fruit machines, might be in a shop, café, pub, or grocer. And then there was still the traveling fair.

American Crime and Postwar Frivolity

In 1950, the Special Committee on Organized Crime in Interstate Commerce in the US Senate, known colloquially as the Kefauver Committee, conducted a series of televised hearings exploring criminal involvement in interstate gambling, seen as the lifeblood of organized crime. The Kefauver trials were among the most widely watched televised events of the period, coinciding with increased domestic television ownership in American homes, and firmly associated automatics and criminality in the American public imagination. The American government passed the 1951 Johnson Act, making the transportation of gambling equipment across US state lines illegal, all but banning the sale, manufacture, and operation of all types of gambling devices. Critically, the Johnson Act did not prohibit *international export* of gambling equipment, and American manufacturers desperately sought viable foreign markets. Britain had demonstrated its receptiveness to automatics during earlier decades and was considered an ideal destination for American machines.[60] American machine manufacturers rapidly set up London offices, but many within the coin-op trade and the British government became concerned that American criminal elements would follow the machines. The concern was so great that the British government was motivated to finally address the glaring issues of British gambling laws and began the process of drafting what became the 1960 Gaming Act—a key step toward the development of the modern British arcade.

The 1960 Gaming Act

The final piece of the jigsaw puzzle in this prehistory of the British amusement arcade is the sudden liberalization of gambling through the 1960 Gaming Act, which finally addressed the inadequacies of the earlier laws. The 1960 Gaming Act legalized gambling for profit and removed the caveat that a coin-operated game with a stake had to include an aspect of skill. When the act came into force on January 1, 1961, it made gambling legal, set limits on the stakes and prizes for machines, and began a gradual process of regulating the manufacture, distribution, and operation of coin-operated games across Britain. The most significant machines defined in the Act were Amusement with Prizes machines (AWPs), which included automatics, prize bingo, and cranes. Very soon, automatics were normalized in Britain under the name “fruit machines,” and these became the staple of British seaside and inland arcades. The act set AWP stake and prize limits low intentionally in order to make them trivial. The win was for amusement purposes, equivalent to winning a coconut or teddy bear at a fairground side stall. Elsewhere, in members’ clubs, gambling on coin-operated machines with higher stakes, as well as the risk of larger gains and losses, was permitted.

The 1960 Gaming Act introduced a legal position described as “unique in the western world,”[61] by allowing children to play on AWP gaming machines—essentially low-stakes gambling. Beyond these restrictions, children and adults were free to enter arcades and play whatever machines and games they wished. For many people, the amusement arcade became a space for low-stakes gambling alongside children's amusements and games. The 1960 Gaming Act cemented the conditions for the modern British arcade, and from this point on, a great number of showfolk who were seeing declining fair attendance, council interference, and falling income abandoned the traveling fair in preference for the static arcade. Writing in 1971, after having spent five years with traveling showfolk, Duncan Dallas explained that many saw the arcade as "means of escape . . . from the falling profits of the fairground."[62] Furthermore, he highlighted the benefits that the 1960 Gaming Act brought the canny and entrepreneurial former showfolk:

> A showman who made capital before 1960, either through the illegal trade or in the fairground, was quick to invest in new machines when fruit-machines were legalized. These in turn were sold or hired out to well-established clubs. . . . He as a distributor was able to fill the arcade with good equipment more cheaply than most of his competitors. An arcade full of machines can cost anything from ten to twenty thousand pounds. Initially a distributor could probably do it for about a thousand pounds cheaper than a newcomer to the business. Considerable capital was required, but by this time he was receiving rent or takings from the previous six or seven years of effort.[63]

According to Dallas, several showfolk trod this path, entering the 1960s with capital to invest and expand their arcade operations. Many showfolk, entrepreneurs, and business consortia saw the opportunities forged by the 1960 Gaming Act, rushing to open arcades and clubs wherever they could, they often discovered that sanddancers had beaten them—sometimes by decades—to the most lucrative and desirable locations. For manufacturers such as Cromptons, who had performed well enough during the challenging postwar conditions, the 1960 Gaming Act was a green light for expansion and innovation. For distributors like Ruffler & Walker and Phonographic Equipment, the act left them ideally placed to support the growing and hungry industry. Meanwhile, for others, like the Wise Cash Register Company, the act offered a whole new business opportunity.

But while the 1960 Gaming Act stimulated the British arcade industry, and many people saw arcades as an enhancement of entertainment amenities, there were others that felt very differently. Some saw arcades, like traveling fairs before them, as a blot on the British moral landscape, and the act as a colossal error in British legislature that demanded rectifying. These concerned entities began lobbying immediately for changes to the act, growing in voice and strength over successive decades and eventually causing an existential crisis for the entire British arcade industry. Interestingly, on the eve of the act's enforcement, the British coin-operated industry voiced its hopes and concerns for the newly liberalized trade (see figure 2.9). On December 31, 1960, John Singleton of *Coin Slot* explained: "January 1, 1961, will indeed be another 'V.E.' day for everyone in the business—the long awaited day of Victory and Emancipation when at last the amusement caterer, for so long the Cinderella of the entertainment world, will receive official recognition and become a law-abiding citizen."[64]

But this was twinned with a warning that would become prophetic in the years to come: "Caution . . . As the last of the chimes announcing the New Year dies away do not go ber[z]erk and start abusing the wording of the law."[65]

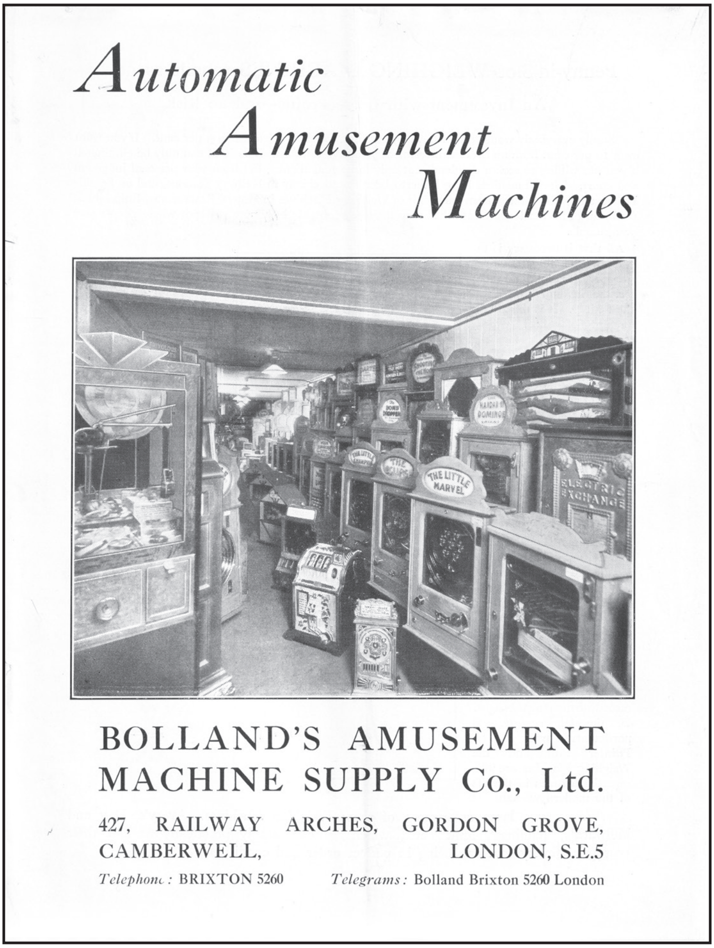
While traveling fairs remain popular to this day, they do so on a far smaller national scale than ever, and the development of the British amusement arcade is undoubtedly one of the contributing factors to this decline. In many ways, the 1960 Gaming Act represents a major hit, if perhaps not a killing blow, on the British fair. As Dallas pondered: "For who will spend money at the fairground stalls, where they have to travel and brave the elements once or twice a year, when they can walk into an amusement arcade any day of the week and play at their convenience on machines which offer the same attractions, shooting, bingo and games of chance?"[66]

The British Arcade Pre-1960 in Perspective

By 1960, the foundations for the modern British amusement arcade landscape had been laid. Most arcade operators were former showfolk, and in the years that followed, many more made the same transition. Most arcade operators still recognized the cultural division between flatties and showfolk and were conscious of the historical intolerance that they had faced with the suppression of the fair, the Moveable Dwellings Bill, and the revocation of fairground sites. It would be reasonable to characterize showfolk operators as gregarious and welcoming, but cautious. They embraced the latest entertainment technologies and set out their arcades to entertain their clientele, but they remained aware of the persistent threat of moral reform and opposition.

The period running up to the 1960s also saw the development of an entrepreneurial coin-machine distribution network, initially based around Fetter Lane, London, centered on the importation and conversion of machines from Germany and the US, and their conversion for the British market.

Distributors were rarely showfolk, but they forged longstanding relationships with them through repeat trade, often acting as advisors and consultants on machines that were suitable for urban and seaside arcade locations. Notable London coin-operated distributors during these early years included Bolland's Amusement Machine Supply, in Camberwell, and Samson Novelty Co. Ltd., Tottenham Court Road, London (see figures 2.7, 2.8, 2.10, and 2.11).

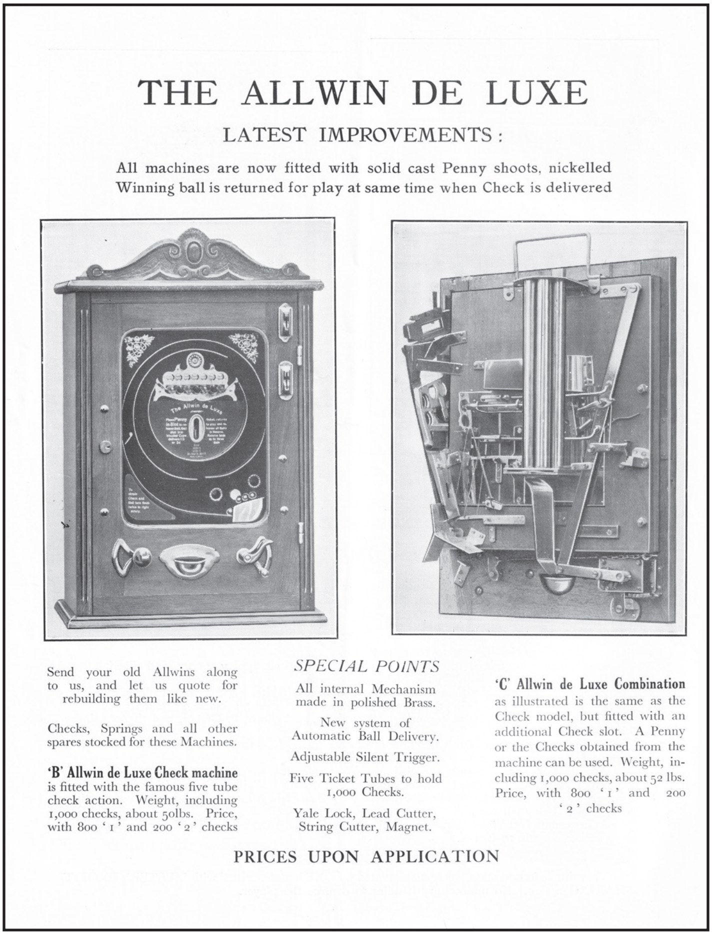

THE LITTLE MARVEL
ELECTRIC EXCHANGE

Automatic
Amusement
Machines

BOLLAND'S AMUSEMENT
MACHINE SUPPLY Co., Ltd.

427, RAILWAY ARCHES, GORDON GROVE,
CAMBERWELL, LONDON, S.E.5
Telephone: BRIXTON 5260 *Telegrams:* Bolland Brixton 5260 London

Figure 2.7
Bolland's Amusement Machine Supply Co. Ltd trade brochure, 1930s. Bolland was one of the major coin-operated machine distributors in London at the time. Nic Costa Archive, CCCU.



THE ALLWIN DE LUXE

LATEST IMPROVEMENTS:

All machines are now fitted with solid cast Penny shoots, nickelled
Winning ball is returned for play at same time when Check is delivered

Send your old Allwins along to us, and let us quote for rebuilding them like new.

Checks, Springs and all other spares stocked for these Machines.

'B' Allwin de Luxe Check machine is fitted with the famous five tube check action. Weight, including 1,000 checks, about 50lbs. Price, with 800 '1' and 200 '2' checks

SPECIAL POINTS

All internal Mechanism made in polished Brass.

New system of Automatic Ball Delivery.

Adjustable Silent Trigger.

Five Ticket Tubes to hold 1,000 Checks.

Yale Lock, Lead Cutter, String Cutter, Magnet.

'C' Allwin de Luxe Combination as illustrated is the same as the Check model, but fitted with an additional Check slot. A Penny or the Checks obtained from the machine can be used. Weight, including 1,000 checks, about 52 lbs. Price, with 800 '1' and 200 '2' checks

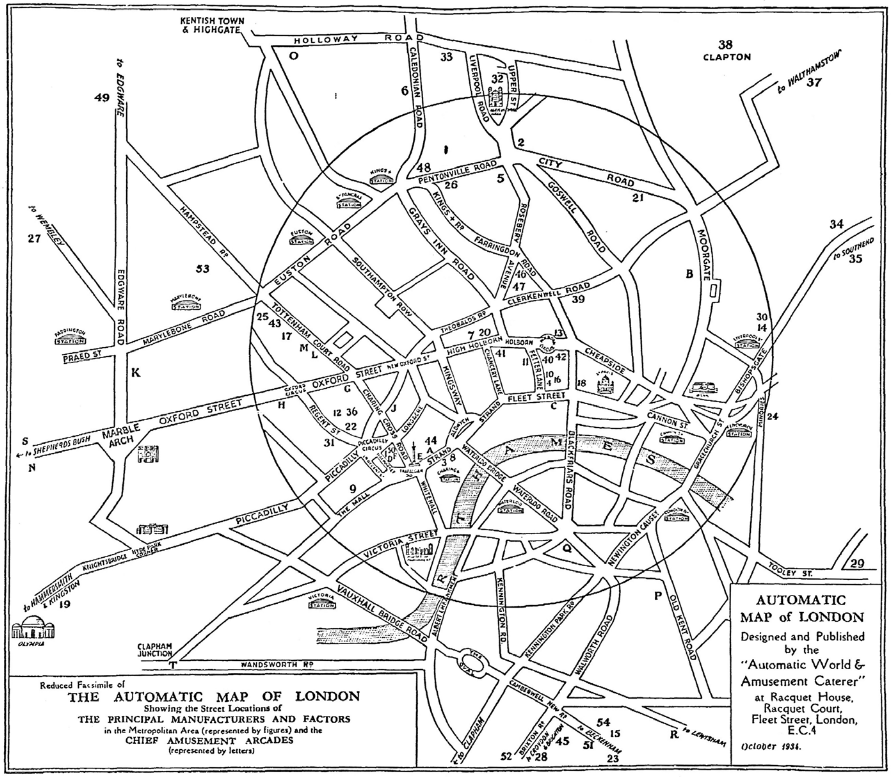
PRICES UPON APPLICATION

Figure 2.8

Bolland's Amusement Machine Supply Co. Ltd trade brochure interior, advertising the popular Allwin De Luxe machine, 1930s. The Allwin De Luxe was considered an advanced version of the enormously popular machines. Nic Costa Archive, CCCU.

It is worth stressing that these traders sold machines of all kinds to early arcade operators, not only gambling machines. Distributors profited by selling the right games for the market, but this required significant capital investment to establish and maintain stocks. In addition, by 1960 distribution was already a highly competitive international activity, with distributors seeking dedicated licenses for machines. Distributors traveled to

MAP NO.	NAME OF FIRM.
5	Advance Automatic Machine and Device Co.
2	Chas. Ahrens
1	Amusement Caterers' Association
27	Amusement Equipment Co. Ltd.
6	Automatic Sales Co.
51	Automatic Supply Service.
4	"Automatic World & Amusement Caterer."
9	Automatic Newsvendors Ltd.
47	Avery, W. & T., Ltd.
8	Brecknell Munro & Rogers, Ltd.
7	British Automatic Machine Operators' Society.
10	British American Novelty Co., Ltd.
13	British Automatic Vendors, Ltd.
14	British Automatic Co. Ltd.
	British Manufacturing Co., 366 Goswell Road, E.C.
15	Bolland, F. C.
11	Burrows Automatic Supply Co. Ltd.
	S. Capaldi and Co., Ltd. Shaftesbury Av., W.C.2.
17	Casati Automatic Machines.
16	Central Automatic Agency.
	Cigarette M/c Manufacturing Co.,
	312 King St., Hammersmith
18	Enticknap, W. G.
19	Ericson (Kingston) Ltd.
22	General Enterprises Ltd.
23	Cift Automatics Ltd.
20	Goddard Novelty Co., Ltd. The World Novelty Co. Ltd.
21	Graucob Ltd.
25	Hardinges (Automatics) Ltd.
28	Harper Automatic Machine Manufacturing Co. Ltd.
26	Hoopers' Automatics.
29	Kett, A. R.
30	London Automatic Machine Co.
32	Manzi Bros.
34	McDonald, A. J.
33	Midland Supply Co.
31	Mutomatics Ltd.
35	Original Machine Manufrs., Ltd.
	Pullar's Ltd. 168 Marlborough Rd., N.19.
37	Premier Auto Trading Co.
38	Premier Automatic M/c. Co.
39	Romor Ltd.
	Regent Automatic Co. 91 Pentonville Rd., N.
42	Samson Novelty Co. Ltd.
41	Scott, Adickes and Co. Ltd.
40	Shefras Automatics Ltd.
	Stannite Automatics, St. John's Rd., Tottenham, N.
43	Streets Automatics Ltd.
46	Vandome Hart Ltd.
53	Walden Automatic Co.
48	Weston Novelty Co., Ltd.
50	Williams, M. (Paragon)
49	Wright, Charles Ltd.


KENTISH TOWN & HIGHGATE
HOLLOWAY ROAD
CALEDONIAN ROAD
LIVERPOOL ROAD
UPPER ST
CITY ROAD
GOSWELL ROAD
PENTONVILLE ROAD
KINGS + Rᴰ
GRAYS INN ROAD
ROSEBERY AVENUE
FARRINGDON ROAD
CLERKENWELL ROAD
MOORGATE
38 CLAPTON
to WALTHAMSTOW 37
to SOUTHEND 35
34
to EDGWARE
EDGWARE ROAD
to WEMBLEY
HAMPSTEAD Rᴰ
EUSTON ROAD
SOUTHAMPTON ROW
THEOBALDS Rᴰ
MARYLEBONE ROAD
PRAED ST
TOTTENHAM COURT ROAD
OXFORD STREET
NEW OXFORD ST
HIGH HOLBORN
HOLBORN
CHANCERY LANE
FETTER LANE
FLEET STREET
CHEAPSIDE
BISHOPSGATE
MINORIES
CANNON ST
GRACECHURCH ST
KINGSWAY
ALDWYCH
STRAND
CHARING CROSS ROAD
LONG ACRE
REGENT ST
OXFORD CIRCUS
PICCADILLY CIRCUS
PICCADILLY
THE MALL
WHITEHALL
TRAFALGAR SQ
MARBLE ARCH
to SHEPHERDS BUSH
KNIGHTSBRIDGE
HYDE PARK CORNER
to HAMMERSMITH & KINGSTON
OLYMPIA
VICTORIA STREET
VAUXHALL BRIDGE ROAD
ALBERT EMBANKMENT
WATERLOO BRIDGE
WATERLOO ROAD
BLACKFRIARS ROAD
NEWINGTON CAUSEY
KENNINGTON RD.
KENNINGTON PARK Rᴰ
WALWORTH ROAD
OLD KENT ROAD
TOOLEY ST.
CAMBERWELL NEW Rᴰ
BRIXTON Rᴰ
to CLAPHAM
to BECKENHAM
to LEWISHAM
THE OVAL
CLAPHAM JUNCTION
WANDSWORTH Rᴰ
THAMES
PADDINGTON STATION
MARYLEBONE STATION
EUSTON STATION
ST PANCRAS STATION
KINGS X STATION
LIVERPOOL ST STATION
LONDON BRIDGE STATION
WATERLOO STATION
CHARING CROSS STATION
VICTORIA STATION
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Reduced Facsimile of
THE AUTOMATIC MAP OF LONDON
Showing the Street Locations of
THE PRINCIPAL MANUFACTURERS AND FACTORS
in the Metropolitan Area (represented by figures) and the
CHIEF AMUSEMENT ARCADES
(represented by letters)

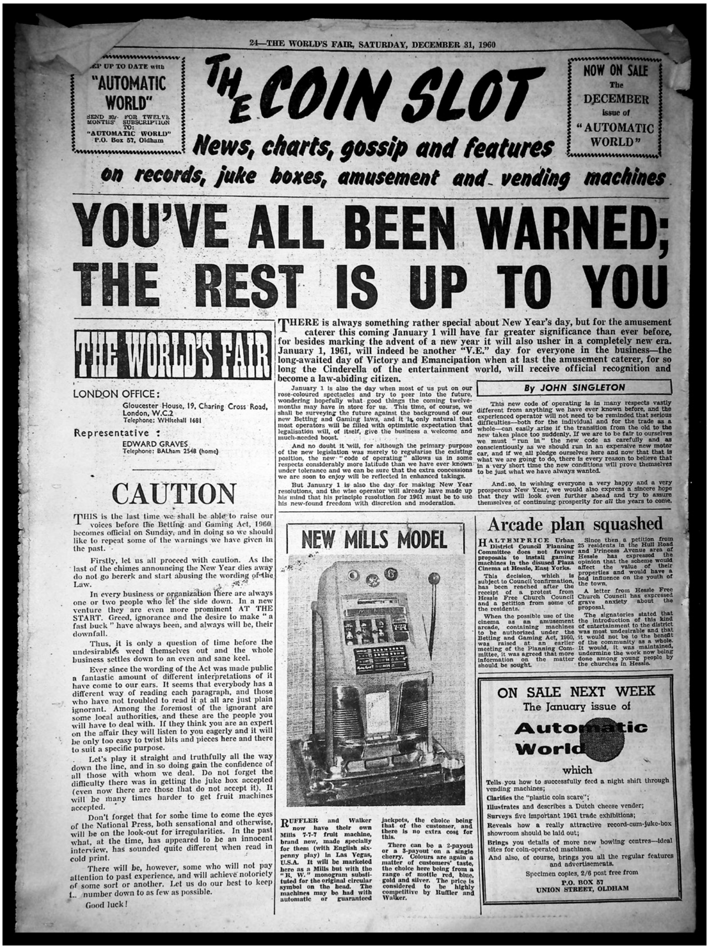
AUTOMATIC
MAP of LONDON
Designed and Published
by the
"Automatic World & Amusement Caterer"
at Racquet House,
Racquet Court,
Fleet Street, London,
E.C.4
October 1934.

AMUSEMENT ARCADES

E	Sports Garden Ltd., 442 and 443 Strand, W.C.2.
	Marble Arch Sports Garden, 530, Oxford Street, W.
H	Arcadia, Gt. Windmill St. W.1.
	Arcadia, 113 Up. Tooting Rd., S.W.17.
R	Davidson's, High Rd., Lewisham, S.E.
L	Bobby's Arcade, Tottenham Ct. Rd., W.1.
O	Goldhill, Kentish Town, N.W.
D	Haymarket Arcade &c, Haymarket and Coventry St., W.
P	Hall's Arcade, Old Kent Rd., S.E.
Q	Harris' Arcade, London Rd., S.E.
C	Hurley & Sears, 143 Fleet St., E.C.4.
F	Amusements, Leicester Sq., W.
S	Lennards' Amusements, Shepherds Bush, W.12
J	Makin's Amusements, Shaftesbury Avenue, W.1.
G	Oxford Sports Arcade, Oxford St., W.1.
	Jubilee Joyland, 67 Oxford Street
N	Perkins Arcade, Shepherds Bush W.
B	A. Richland, Fore St., E.C.
T	Sports Palace, Station Approach, Clapham Junction, S.E.
A	Strand Automatics Ltd., 150 and 407, Strand, W.C.
	Southampton Row Arcade (corner Theobald's Road).

Figure 2.9

Automatic map of London, 1934, showing coin-operated industry businesses and amusement arcades situated in central London. Originally published in a coin-operated industry newspaper. Automatic World & Amusement Caterer. Nic Costa Archive, CCCU.



24—THE WORLD'S FAIR, SATURDAY, DECEMBER 31, 1960

EP UP TO DATE with
"AUTOMATIC WORLD"
SEND 30/- FOR TWELVE MONTHS' SUBSCRIPTION TO:
"AUTOMATIC WORLD"
P.O. Box 57, Oldham

THE COIN SLOT

News, charts, gossip and features on records, juke boxes, amusement and vending machines

NOW ON SALE
The
DECEMBER
issue of
"AUTOMATIC WORLD"

YOU'VE ALL BEEN WARNED; THE REST IS UP TO YOU

THERE is always something rather special about New Year's day, but for the amusement caterer this coming January 1 will have far greater significance than ever before, for besides marking the advent of a new year it will also usher in a completely new era. January 1, 1961, will indeed be another "V.E." day for everyone in the business—the long-awaited day of Victory and Emancipation when at last the amusement caterer, for so long the Cinderella of the entertainment world, will receive official recognition and become a law-abiding citizen.

By JOHN SINGLETON

January 1 is also the day when most of us put on our rose-coloured spectacles and try to peer into the future, wondering hopefully what good things the coming twelve-months may have in store for us. This time, of course, we shall be surveying the future against the background of our new Betting and Gaming laws, and it is only natural that most operators will be filled with optimistic expectation that legalisation will, of itself, give the business a welcome and much-needed boost.

And no doubt it will, for although the primary purpose of the new legislation was merely to regularise the existing position, the new "code of operating" allows us in some respects considerably more latitude than we have ever known under tolerance and we can be sure that the extra concessions we are soon to enjoy will be reflected in enhanced takings.

But January 1 is also the day for making New Year resolutions, and the wise operator will already have made up his mind that his principle resolution for 1961 must be to use his new-found freedom with discretion and moderation.

This new code of operating is in many respects vastly different from anything we have ever known before, and the experienced operator will not need to be reminded that serious difficulties—both for the individual and for the trade as a whole—can easily arise if the transition from the old to the new takes place too suddenly. If we are to be fair to ourselves we must "run in" the new code as carefully and as conscientiously as we should run in an expensive new motor car, and if we all pledge ourselves here and now that that is what we are going to do, there is every reason to believe that in a very short time the new conditions will prove themselves to be just what we have always wanted.

And so, in wishing everyone a very happy and a very prosperous New Year, we would also express a sincere hope that they will look even further ahead and try to assure themselves of continuing prosperity for *all* the years to come.

THE WORLD'S FAIR

LONDON OFFICE:
Gloucester House, 19, Charing Cross Road,
London, W.C.2
Telephone: WHItehall 1681

Representative :
EDWARD GRAVES
Telephone: BALham 2548 (home)

CAUTION

THIS is the last time we shall be able to raise our voices before the Betting and Gaming Act, 1960 becomes official on Sunday, and in doing so we should like to repeat some of the warnings we have given in the past.

Firstly, let us all proceed with caution. As the last of the chimes announcing the New Year dies away do not go bererk and start abusing the wording of the Law.

In every business or organization there are always one or two people who let the side down. In a new venture they are even more prominent AT THE START. Greed, ignorance and the desire to make "a fast buck" have always been, and always will be, their downfall.

Thus, it is only a question of time before the undesirables weed themselves out and the whole business settles down to an even and sane keel.

Ever since the wording of the Act was made public a fantastic amount of different interpretations of it have come to our ears. It seems that everybody has a different way of reading each paragraph, and those who have not troubled to read it at all are just plain ignorant. Among the foremost of the ignorant are some local authorities, and these are the people you will have to deal with. If they think you are an expert on the affair they will listen to you eagerly and it will be only too easy to twist bits and pieces here and there to suit a specific purpose.

Let's play it straight and truthfully all the way down the line, and in so doing gain the confidence of all those with whom we deal. Do not forget the difficulty there was in getting the juke box accepted (even now there are those that do not accept it). It will be many times harder to get fruit machines accepted.

Don't forget that for some time to come the eyes of the National Press, both sensational and otherwise, will be on the look-out for irregularities. In the past what, at the time, has appeared to be an innocent interview, has sounded quite different when read in cold print.

There will be, however, some who will not pay attention to past experience, and will achieve notoriety of some sort or another. Let us do our best to keep the number down to as few as possible.

Good luck!

NEW MILLS MODEL

RUFFLER and Walker now have their own Mills 7-7-7 fruit machine, brand new, made specially for them (with English six-penny play) in Las Vegas, U.S.A. It will be marketed here as a Mills but with the "R. W." monogram substituted for the original circular symbol on the head. The machines may be had with automatic or guaranteed jackpots, the choice being that of the customer, and there is no extra cost for this.

There can be a 2-payout or a 3-payout on a single cherry. Colours are again a matter of customers' taste, the choice here being from a range of mottle red, blue, gold and silver. The price is considered to be highly competitive by Ruffler and Walker.

Arcade plan squashed

HALTEMPRICE Urban District Council Planning Committee does not favour proposals to install gaming machines in the disused Plaza Cinema at Hessle, East Yorks.

This decision, which is subject to Council confirmation, has been reached after the receipt of a protest from Hessle Free Church Council and a petition from some of the residents.

When the possible use of the cinema as an amusement arcade, containing machines to be authorized under the Betting and Gaming Act, 1960, was raised at an earlier meeting of the Planning Committee, it was agreed that more information on the matter should be sought.

Since then a petition from 25 residents in the Hull Road and Princess Avenue area of Hessle has expressed the opinion that the scheme would affect the value of their properties and would have a bad influence on the youth of the town.

A letter from Hessle Free Church Council has expressed grave anxiety about the proposal.

The signatories stated that the introduction of this kind of entertainment to the district was most undesirable and that it would not be to the benefit of the community as a whole. It would, it was maintained, undermine the work now being done among young people by the churches in Hessle.

ON SALE NEXT WEEK
The January issue of
Automatic World
which

Tells you how to successfully feed a night shift through vending machines;

Clarifies the "plastic coin scare";

Illustrates and describes a Dutch cheese vender;

Surveys five important 1961 trade exhibitions;

Reveals how a really attractive record-cum-juke-box showroom should be laid out;

Brings you details of more new bowling centres—ideal sites for coin-operated machines.

And also, of course, brings you all the regular features and advertisements.

Specimen copies, 2/6 post free from
P.O. BOX 57
UNION STREET, OLDHAM

Figure 2.10

Coin Slot supplement, December 31, 1960, in which the British coin-operated machine industry voiced its hopes and concerns about the arrival of the 1960 Gaming Act. Nic Costa Archive, CCCU.

Europe and the US to meet with manufacturers, and in successive decades this expanded to Japan. Distributors identified machines, competed for licenses, and then sold the machines to operators.

Finally, we have the British arcade players. It is difficult to comment about the makeup of the British arcade audience at this point, other than to accentuate its breadth on account of the arcade's direct link to fairgrounds, the

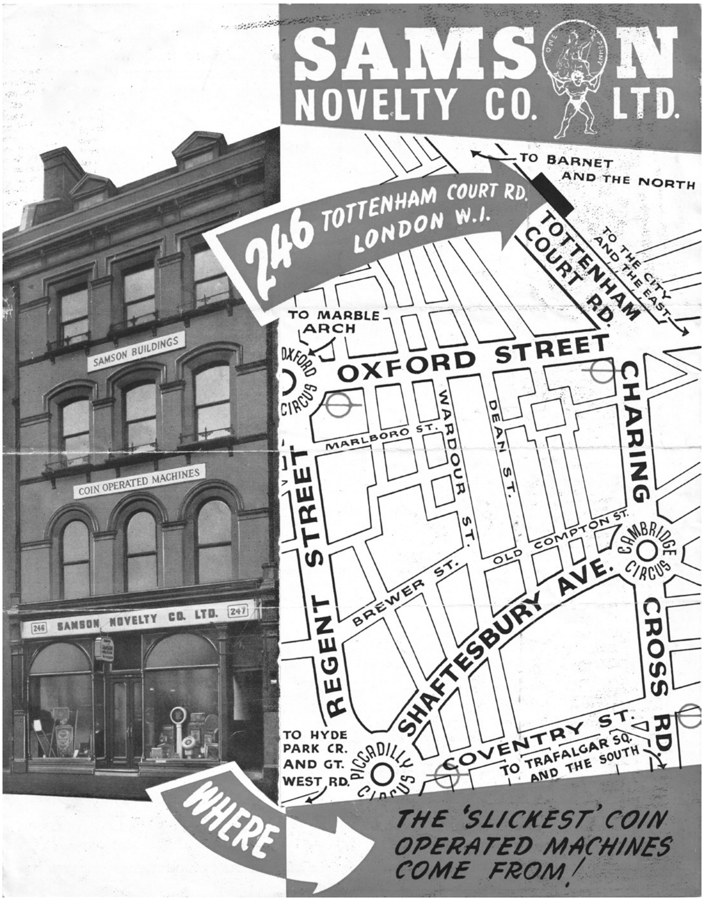
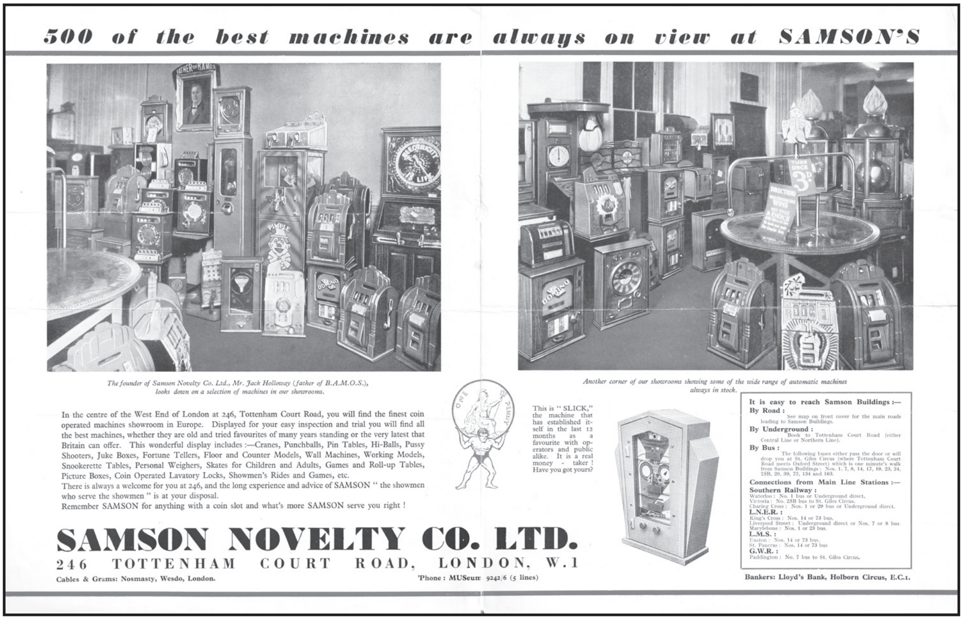

SAMSON
NOVELTY CO. LTD.
ONE PENNY
246 TOTTENHAM COURT RD. LONDON W.1.
TO BARNET AND THE NORTH
TOTTENHAM COURT RD.
TO THE CITY AND THE EAST
TO MARBLE ARCH
OXFORD CIRCUS
OXFORD STREET
MARLBORO ST.
WARDOUR ST.
DEAN ST.
CHARING CROSS RD.
REGENT STREET
OLD COMPTON ST.
CAMBRIDGE CIRCUS
BREWER ST.
SHAFTESBURY AVE.
COVENTRY ST.
TO HYDE PARK CR. AND GT. WEST RD.
PICCADILLY CIRCUS
TO TRAFALGAR SQ. AND THE SOUTH
SAMSON BUILDINGS
COIN OPERATED MACHINES
246 SAMSON NOVELTY CO. LTD. 247
WHERE
THE 'SLICKEST' COIN OPERATED MACHINES COME FROM!

Figure 2.11

Samson Novelty Co. Ltd. brochure cover, 1950s. Samson Novelty Co. became a major London-based distributor, especially during the industry expansion seen post-1960. Nic Costa Archive, CCCU.

ubiquity and popularity of fruit machines in British society, and the importance of the seaside holiday to British culture. Certainly, at this point, British arcades were attractive to many who were welcome at a resort, not just children or teenage boys, but a wide section of the British population. This is not to paint the British arcade as an accepting utopia, immune to the gender or racial divides in Britain at any time, but to portray the arcades as being no different from the resorts (or urban locations) that surrounded them.



500 of the best machines are always on view at SAMSON'S

The founder of Samson Novelty Co. Ltd., Mr. Jack Holloway (father of B.A.M.O.S.), looks down on a selection of machines in our showrooms.

Another corner of our showrooms showing some of the wide range of automatic machines always in stock.

In the centre of the West End of London at 246, Tottenham Court Road, you will find the finest coin operated machines showroom in Europe. Displayed for your easy inspection and trial you will find all the best machines, whether they are old and tried favourites of many years standing or the very latest that Britain can offer. This wonderful display includes :—Cranes, Punchballs, Pin Tables, Hi-Balls, Pussy Shooters, Juke Boxes, Fortune Tellers, Floor and Counter Models, Wall Machines, Working Models, Snookerette Tables, Personal Weighers, Skates for Children and Adults, Games and Roll-up Tables, Picture Boxes, Coin Operated Lavatory Locks, Showmen's Rides and Games, etc.

There is always a welcome for you at 246, and the long experience and advice of SAMSON " the showmen who serve the showmen " is at your disposal.

Remember SAMSON for anything with a coin slot and what's more SAMSON serve you right !

This is " SLICK," the machine that has established itself in the last 12 months as a favourite with operators and public alike. It is a real money - taker ! Have you got yours?

It is easy to reach Samson Buildings :—

By Road :
See map on front cover for the main roads leading to Samson Buildings.

By Underground :
Book to Tottenham Court Road (either Central Line or Northern Line).

By Bus :
The following buses either pass the door or will drop you at St. Giles Circus (where Tottenham Court Road meets Oxford Street) which is one minute's walk from Samson Buildings : Nos. 1, 7, 8, 14, 17, 19, 23, 24, 25B, 29, 39, 73, 134 and 163.

Connections from Main Line Stations :—

Southern Railway :
Waterloo : No. 1 bus or Underground direct.
Victoria : No. 25B bus to St. Giles Circus.
Charing Cross : Nos. 1 or 29 bus or Underground direct.

L.N.E.R. :
King's Cross : Nos. 14 or 73 bus.
Liverpool Street : Underground direct or Nos. 7 or 8 bus.
Marylebone : Nos. 1 or 23 bus.

L.M.S. :
Euston : Nos. 14 or 73 bus.
St. Pancras : Nos. 14 or 73 bus

G.W.R. :
Paddington : No. 7 bus to St. Giles Circus.

SAMSON NOVELTY CO. LTD.

246 TOTTENHAM COURT ROAD, LONDON, W.1

Cables & Grams: Nosmasty, Wesdo, London.

'Phone : MUSeum 9242/6 (5 lines)

Bankers: Lloyd's Bank, Holborn Circus, E.C.1.

Figure 2.12

Samson Novelty Co. Ltd. brochure interior, 1950s. Samson Novelty Co. stocked more than five hundred machines on site. The photographs show that there was a wide variation of machines, including punching machines, electric-shock machines, Allwins, and many variations of fruit machines. Nic Costa Archive, CCCU.

What is already visible in this prehistory are the themes that repeatedly situate and inform the development of the British amusement arcade in addition to the historic associations with the traveling fair and British gambling heritage. These include *legislation*, seen in the charter fairs, the gambling laws, the Movable Dwelling Act, and the 1960 Gaming Act; *internationalization*, seen in the importation of machines from Germany and the US, and the impacts of geopolitics, war, and knock-on effects of the Johnson Act; *moral concerns* about what is considered proper or best for people, including the various moral reforms that sought to regulate the fair, challenge the showfolk's way of life, or indeed regulate gambling; and *criminal concerns*, in this case the Kefauver trials that influenced the draft of the 1960 Gaming Act. Let's consider the repercussions of the act in chapter 3.

3 Coin-Op Entrepreneurialism

For the many existing British coin-operated machine manufacturers, such as Streets of Eastbourne and the Cromptons, the 1960 Gaming Act allowed acceleration and expansion. The new laws and opportunities did not go unnoticed by entrepreneurs outside the trade, large or small. If the act radically changed the legislative, economic, and social conditions surrounding the British amusement arcade, it also set in motion a sequence of entrepreneurial activities. Businesses were formed in direct response to the act, as people saw the arcade trade as a viable opportunity. We will now explore some examples of the ways that people and companies rapidly exploited the opportunities exposed by this legislation. While many narratives exist—too many to cover here—we will touch on specific themes that inform the development of the British arcade and its relationship with the North American mythic arcade. These include the changing face of the British arcade, corporate investment, the development of new machines specifically for the post–Gaming Act environment, the naturalization of automatics and fruit machines, and the development of importation, distribution, and sales systems—all of which are informed by legislation and internationalization.

Corporate Expansion

The introduction of the 1960 Gaming Act created a gold rush of arcade and club expansion. Now that arcades appeared profitable business opportunities, there was a surge in planning applications from sanddancers, entrepreneurs, and consortia for new arcades and clubs, submitted wherever an applicant thought there might be a population to support them. In addition to encouraging showfolk away from the traveling fair, the act attracted big business to arcade operation, and two of the largest entertainment companies in Britain entered the market: Forte and Rank. Forte Holdings (later known as Trusthouse Forte) began acquiring seaside tourist sites, including arcades and Victorian pleasure piers around Britain. Rank, founded in 1937 by J. Arthur Rank, a British pioneer of vertical integration who produced, distributed, and exhibited feature films across Britain, began to add arcades, bingo halls, clubs, and even distributors to its portfolio. Corporations such as Rank and Forte recognized the profitability of arcades at popular resorts, and like a growing number of politicians, the sector's perceived relative undertaxation. As a result, Rank and Forte used their enormous buying power to secure many of the most prestigious sites around Britain. Where they were beaten to a location, corporations offered sanddancers attractive prices for their arcades or bought the freehold of locations directly, and many former theaters and cinemas were redeveloped as arcades and bingo clubs. Major seaside resorts such as Blackpool, Margate, and Brighton became battlegrounds for corporate dominance, while smaller seaside resorts were largely left for the sanddancers and entrepreneurs to exploit.

The typical early 1960s British arcade had something of a temporary gaff-shop feel to it, with concrete floors and plain walls. One sanddancer, the Blackpool-based Tom Lane, changed this by investing in the furnishings and fabric of the arcade as well as its machine mix. Lane revolutionized the British arcade with the design of Lane's Amusements, on Blackpool's Golden Mile.[1] Doing away with the varnished wood floor, Lane installed plush carpets, velvet wall hangings, and other decorations. Lane's style choices became the talk of the British industry, and arcade owners made a point of visiting his arcade to see the design. Lane's vision of the arcade became a stylistic benchmark for the British arcade, and the competitive nature of sanddancers ensured that plush surroundings were soon replicated and bested elsewhere. The appearance of the British arcade changed—it remained open and airy but boasted luxurious, even ostentatious carpet, decorative lights, and velvet. At a similar time, a sign-making company, Academy Signs of Southall, Middlesex, became the preferred manufacturer of the grand fiberglass-and-lights arcade frontages, which became larger and more impressive as the years progressed. One industry member suggested that a group of arcade owners had visited Las Vegas in the early 1960s and been so impressed by the architecture and casino frontage that they pledged to replicate the spectacle in Britain. Academy Signs, run by

Heinz and Nora Barth, stepped in to facilitate this, designing and manufacturing the facades, signage, and later interior decorations for the entire British arcade industry.

Forte bought pleasure piers at New Brighton, Cheshire, Brighton, Great Yarmouth, Southsea, and Morecambe. By late 1967, they controlled all three Blackpool piers, investing £200,000 ($272,000) in the central pier, expanding its bingo and theater space, and topping off this investment with the constriction of the enormous Golden Goose arcade at the promenade end of the pier. The Golden Goose arcade opened in June 1967, and at 12,000 square feet, it was the largest amusement arcade in Britain at the time. A year later, in August 1968, Blackpool Tower Company's £1 million ($1.36 million), 45,000-square-foot Golden Mile Centre was opened to the public—the largest entertainment center in Europe. Its ground floor contained a large, modern arcade, with about 400 automatics and three children's rides, while the first floor housed "a complete fair ground—probably the only example of a first floor fair ground in the world."[2] This included all the features of a conventional traveling fairground, including Gallopers (a traditional horse carousel ride), a Waltzer (a spinning carousel ride where the curved seats rotate independently), a full-size dodgem run by Lawrence Silcock, and a range of sideshows including palmistry, hoopla, and Winchester rifles. Interspersed among the fairground were stands containing fruit machines and coin-operated amusements. The major expansion capturing the link between fairground, arcade, and seaside was therefore captured in the major seaside entertainments of the period. While these were examples of the very largest corporate arcade investment and expansion, sites of smaller sizes were appearing across Britain at seaside resorts, cities, and some major towns. As we will see in chapter 4, this expansion was soon met with frustrated resistance.

The Cromptons—Film Stars, Coin Pushers, and Twenty-Player Games

Two men important to understanding the British arcade industry are Alfred and Jim Crompton. In 1916, Alfred Crompton was born in Birmingham to Nora Sofia Crompton and Alfred Henry Crompton.[3] His brother, James Eric Crompton (Jim), was born five years later in 1921, and when Jim was two years old, the family moved to Greenford, close to Acton, West London. Their mother ran a popular fish-'n-chips shop in Greenford, and the

Crompton brothers spent their time helping in the restaurant.[4] By the 1920s, Acton had become the heart of Britain's automotive engineering and manufacturing industries, and Napiers, Du Cros, and Vanderell and Co. had car factories in the area.

Places like Acton were the 1900s British equivalent of Silicon Valley, populated by people who understood mechanics, electrics, and materials, and with a thirst for invention and innovation. Growing up in this environment gave the Crompton brothers an excellent foundation for their eventual careers designing, making, and selling arcade machines. Alf showed a particular aptitude for engineering; in 1928, at the age of twelve, he designed and built a bagatelle-style machine (a precursor to the pintable) and was awarded a prestigious school scholarship.[5] However, despite what looked like a career path into management-level engineering, Alf left school earlier than planned, wanting to get his hands dirty working in the engineering plants.

In 1934, when Alf was eighteen and Jim thirteen, the brothers took their first steps into the amusements industry. They visited one of the Fetter Lane distributors, the Shefras Novelty Company, and purchased an imported American *Silver Cup* pintable machine for thirty shillings (equivalent to half a working man's weekly wages). The machine, made by Genco Manufacturing Chicago and converted to British coinage, had been popular in the US since its release the previous year, described in promotional literature as "the first real 'over-night sensation' of the coin machine industry! The fastest money-making skill-thrill game in America!"[6] Alf reconditioned the machine, and the brothers installed it in their mother's restaurant: the teenage Crompton brothers had become arcade operators, and the machine paid for its purchase cost in its very first week.[7]

The brothers reinvested their income, buying more machines from the Shefras Novelty Company and other prewar machine distributors, and with Alf's construction skills, they were able to refurbish used pintables bought at low prices. Jim later explained, "We both liked messing around with machinery, and in those days, coin-op machines were very primitive. We thought we could improve them, make them more fun to play."[8] They would strip down the machines, repaint and rechrome the cabinets, redesign the playfields, and add new parts, even including electromagnetic "kickers" (that push a ball away from an obstacle at speed) as seen in later pinball machines, which the brothers wound by hand. These appealing new features were powered by car batteries built into the modified tables. Despite the brothers' success, Jim Crompton saw their machine manufacture and operation as "still only a hobby: we kept onto our day jobs."[9]

By the outbreak of World War II in 1939, the Crompton brothers were operating machines in cafés, pubs, and bars throughout London and had established themselves as small-scale machine manufacturers and operators. As skilled—albeit largely self-taught—engineers, the brothers went their separate ways to do engineering work during the war. Jim became a machine mechanic for Saunders Roe, working on the *Gloucester Meteor*, Britain's first jet fighter. He later described the experience as "training in state-of-the art engineering."[10] Meanwhile, Alf worked as an engineer, even developing a guided missile concept that he had proposed to the British military.[11]

At the end of the war, the Crompton brothers began to work on machines once more, and by December 1945, they submitted a patent application for a two-player, coin-operated ball game.[12] Despite the patent, there is no known record of the machine, and it is likely to have been produced in small numbers and met with limited success, but the very act of patenting the idea—with its costs and necessary paperwork—indicates how seriously the brothers were taking manufacturing and their confidence in the market even before the 1960 Gaming Act.

While the lack of construction materials postwar challenged some manufacturers, the Crompton brothers saw this as an opportunity to commence repairing, modifying, and building games. Despite the currency controls, machines (mostly pintables and modified automatics) were imported from the US. Alf was adamant that coin-op machines could be improved with the addition of electrical power: flashing lights, solenoids, and electromagnets to hurl balls around a playfield. But although Alf had experience in mechanical engineering, his understanding of electronics was limited. He paid a guinea for an electronics correspondence course, and in 1947, with this new expertise, the Crompton brothers began trading as Crompton Ltd (the Crompton brothers set up multiple overlapping companies during their time).[13]

British coin-operated machine manufacturers fought to supply the Battersea Park Pleasure Gardens, and naturally the Cromptons were among them, but they found trading conditions in the 1950s so difficult that they ceased trading. Jim spent his time running market stalls and doing work at the Battersea Park Pleasure Gardens, and in so doing got to know the community of arcade operators and showfolk well. Alf stayed in the industry, relocating to the small seaside town of Ramsgate, where he worked as a machine mechanic at Strand Automatics' arcade. Outside the season, he used the arcade workshops to build his own machine prototypes.

In 1955, four years after first moving to Ramsgate, Alf unveiled the *Film Star* machine, which made Cromptons one of the largest British amusement manufacturers of the time.[14] Jim proudly described it as the first multiplayer, coin-operated, eight-player, one-penny machine. The *Film Star* was a large, rectangular machine with four playing stations on each side. The game responded to the popularity of postwar cinema idols, with each player station decorated with a notorious starlet or idol. As the game played, the faces and names were illuminated in quick succession, and the one that remained illuminated at the end of the play cycle was the winner. A player who had inserted a coin on the corresponding station would win a prize, determined by the stakes attributed to the specific actor. As Jim put it: "Ava Gardener paid out 2d, Jane Russell paid out 3d, Gregory Peck paid out 4d, and Marilyn Munroe paid out a top prize of 6d!"[15] The January 1956 patent explains: "One or more players can insert a coin at a station selected according to their forecast of which legend will be last to be lit at the end of the next playing period and a correct forecast will cause prize-winning tokens to be delivered at that station."[16]

The first *Film Star* machine (see figure 3.1 and 3.2) was site-tested in a small arcade on the Ramsgate seafront in 1956, where it did brisk business. Hearing of the machine's success, Jim (and his mother, Nora) relocated to Ramsgate, and Jim worked on the marketing and sales for the machine. At this point, the brothers formed a short partnership with Arthur Bates, a prominent member of the Showmen's Guild, and the three men traded as Crompton and Bates until August 1958. In 1950, Bates had been elected as deputy vice president of the Showmen's Guild, and he was well connected with showfolk. Seeing a well-respected fellow showman advocating arcade machines like the *Film Star* would inevitably have increased the machine's visibility and accelerated its adoption throughout the country, and it also galvanized the Cromptons' reputation.

Recognizing its value, the brothers made the *Film Star* available only on a profit-sharing basis, but the machine was so popular that everyone made money. Solly Parker, operator of the *Black Cat* arcade in Rhyl, was so keen to purchase a *Film Star* outright that he reportedly sent the Cromptons a blank check with the note, "I want to buy the Film Star; fill in the

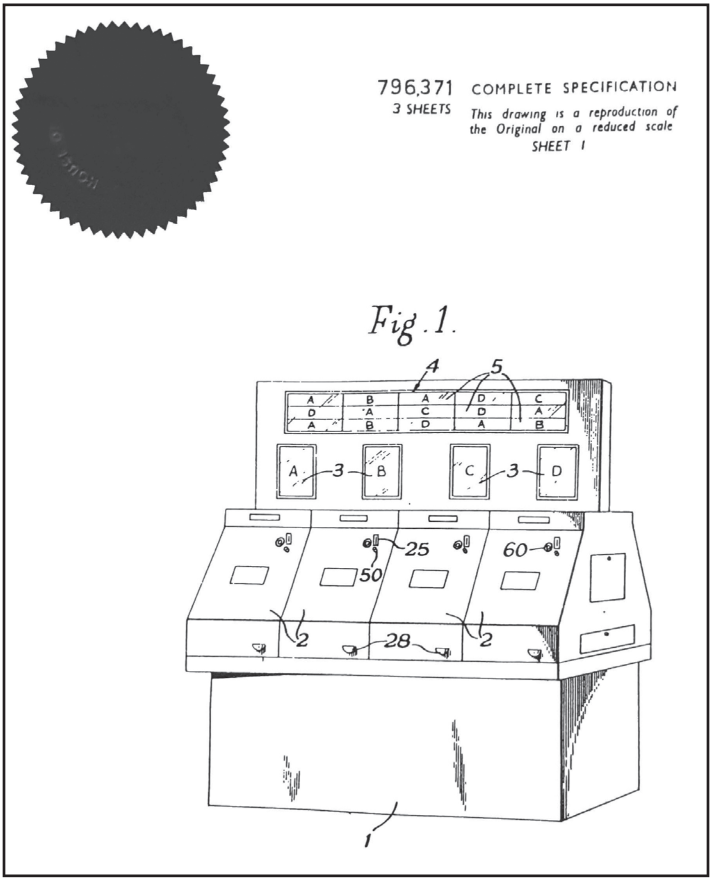

796,371 COMPLETE SPECIFICATION
3 SHEETS
This drawing is a reproduction of the Original on a reduced scale
SHEET 1
Fig. 1.
4
5
A B A D C
D A C D A
A B D A B
A
3
B
C
3
D
25
50
60
2
28
2
1

Figure 3.1
Cromptons' *Film Star* patent application detail. Thanks to Gordon Crompton.

amount yourself!"[17] The check was returned unfilled, with a conciliatory letter. *Film Star* machines were operated extensively throughout the UK in Whitby, Tenby, Whitley Bay, South Shields, Hastings, Rhyl, and Scarborough, and they made significant money. The arcade owner Stan Bollom saw the machine as key to the British arcade's postwar but pre–Gaming Act growth, explaining, "We never earned any money until the *Film Star* arrived."[18]

In August 1958, Bates left the partnership to focus on arcade operation, and the brothers changed their policy to allow outright purchases of the machine. The considerable revenue generated was used to purchase

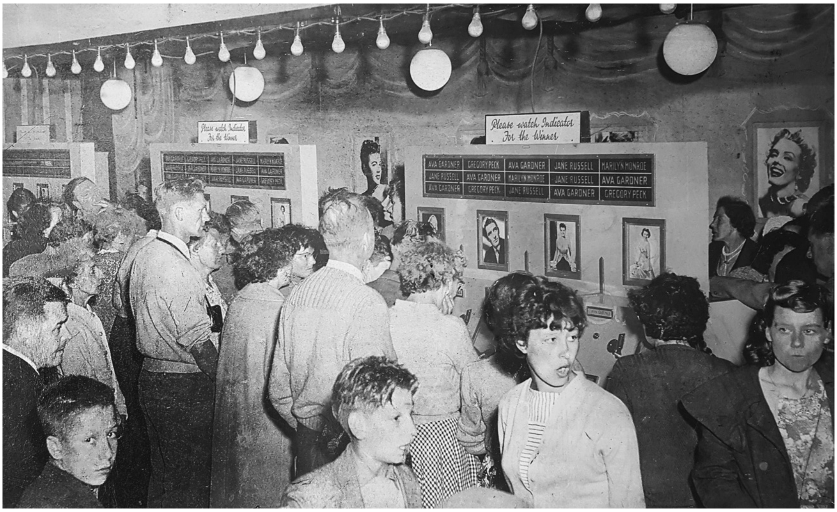
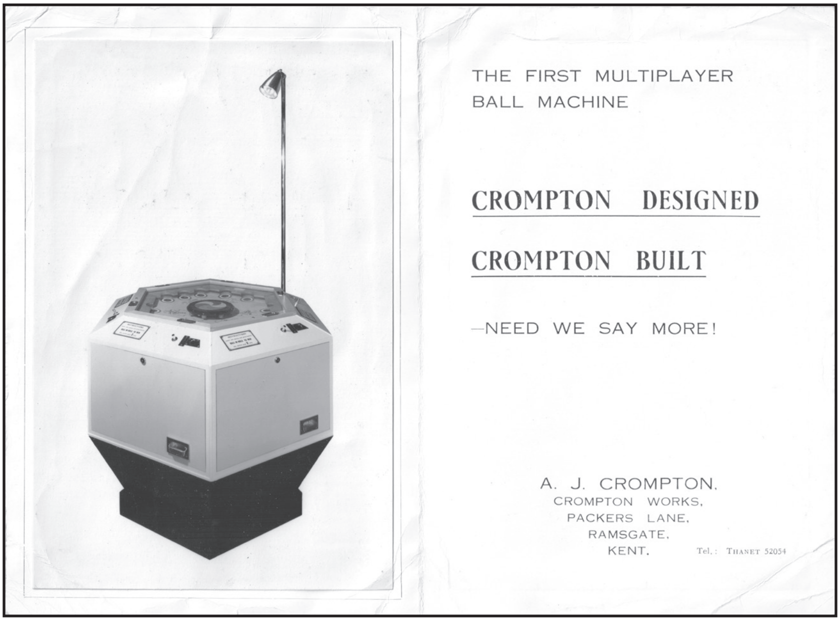

Please watch Indicator
For the Winner
AVA GARDNER
GREGORY PECK
AVA GARDNER
JANE RUSSELL
MARILYN MONROE
JANE RUSSELL
AVA GARDNER
MARILYN MONROE
JANE RUSSELL
AVA GARDNER
AVA GARDNER
GREGORY PECK
JANE RUSSELL
AVA GARDNER
GREGORY PECK

Figure 3.2
Cromptons' *Film Star* machine was one of the first to capture the arcade-going public's imagination. This photograph shows British crowds playing the machine. Thanks to Gordon Crompton.

a 5,000-square-foot factory in Ramsgate outright for £3,800,[19] and from there, the Cromptons built their reputation for innovation and quality manufacturing. The Ramsgate factory became something of a training ground for subsequent British amusement industry innovators, and years later, in more difficult times, the outright ownership of the factory enabled the company to regroup and rebuild. Shortly after the announcement of the 1960 Gaming Act, the Cromptons ceased manufacturing the *Film Star* and focused on the development of large, multiplayer Amusement with Prizes (AWP) machines. While the *Film Star* had been an important stepping stone, it had not been specifically designed to exploit the 1960 Gaming Act—and besides, the brothers had new ideas for machines.

The *Six-Way* machine (see figure 3.3) had been patented in March 1957, and variations of its multiplayer design became the company's dominant products into the mid-1960s. The *Six-Way* was a large, hexagonal, six-player machine with a flat, felt-covered playfield containing two winning holes per side. When activated, six 1-inch ball-bearings were ejected from the center of the machine, rolling toward the players and their winning holes



THE FIRST MULTIPLAYER
BALL MACHINE

CROMPTON DESIGNED

CROMPTON BUILT

—NEED WE SAY MORE!

A. J. CROMPTON.
CROMPTON WORKS,
PACKERS LANE,
RAMSGATE,
KENT.
Tel.: THANET 52054

Figure 3.3
Cromptons' *Six-Way* machine trade brochure, 1957. Nic Costa Archive, CCCU.

in the baize in front of them.[20] The first ball to fall into a hole was the winner, and if the hole was connected to an actively played player position, a payout was automatically awarded.

Six-Way machines became so popular that the brothers began operating as the Crompton Six-Way Machine Company. The *Six-Way* was followed the next year by *Archers*, which applied a Robin Hood archery theme (see figure 3.4).[21] Hammer Productions Ltd., the makers of classic British postwar horror films, had released *Sword of Sherwood Forest* in 1960, building on the success of the then-popular *Adventures of Robin Hood* television series. The Cromptons saw opportunity and used the theme, but not the license—something that they did for many years afterward. *Archers* was similar to the *Six-Way*, but it was covered in Robin Hood–style illustrations and doubled the number of winning holes.

The Crompton brothers spent much of their time observing their machines in play in arcades and thinking about play appeal and player psychology. They decided that the mechanical processes (balls ejecting, spinning, and

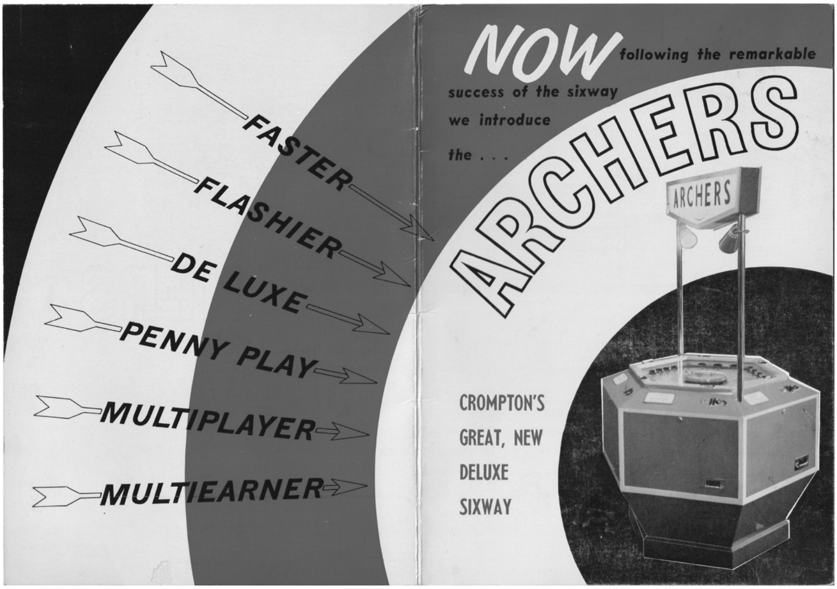

FASTER
FLASHIER
DE LUXE
PENNY PLAY
MULTIPLAYER
MULTIEARNER
NOW following the remarkable success of the sixway we introduce the . . .
ARCHERS
ARCHERS
CROMPTON'S
GREAT, NEW
DELUXE
SIXWAY

Figure 3.4
Cromptons' *Archers* machine trade brochure, 1960. Nic Costa Archive, CCCU.

rolling), and the social interactions created by the tensions of near-misses, or lucky slow balls, were critical to the popularity of their best machines. Perhaps unsurprisingly, Jim noticed that the more visible winning holes, the better the public perception of the machine, even if the underlying odds of winning or rates of return did not improve. Consequentially, the twenty-four-hole *Archers* was more popular than the previous twelve-holed *Six-Way*, and this popularity meant a greater return for operators.

The first *Six-Way* machines were installed at Yarmouth Pleasure Beach, with one Blackpool arcade installing three of them. Interest in the *Six-Way* and *Archers* machines continued through the early 1960s, and the brothers fell into a familiar division of responsibility: Alf doing a greater proportion of the engineering work and Jim focusing on sales. It became evident that Jim's personality and his reputation built working with showfolk at Battersea Park Pleasure Gardens made him better suited to interacting with prospective buyers and dealing with sales and marketing. Cromptons specialized in making successively larger machines to cater for the most profitable arcade sites, and this pattern reached its apex with its 1962 *Derby Racer* (see figure 3.5, 3.6, and 3.7).

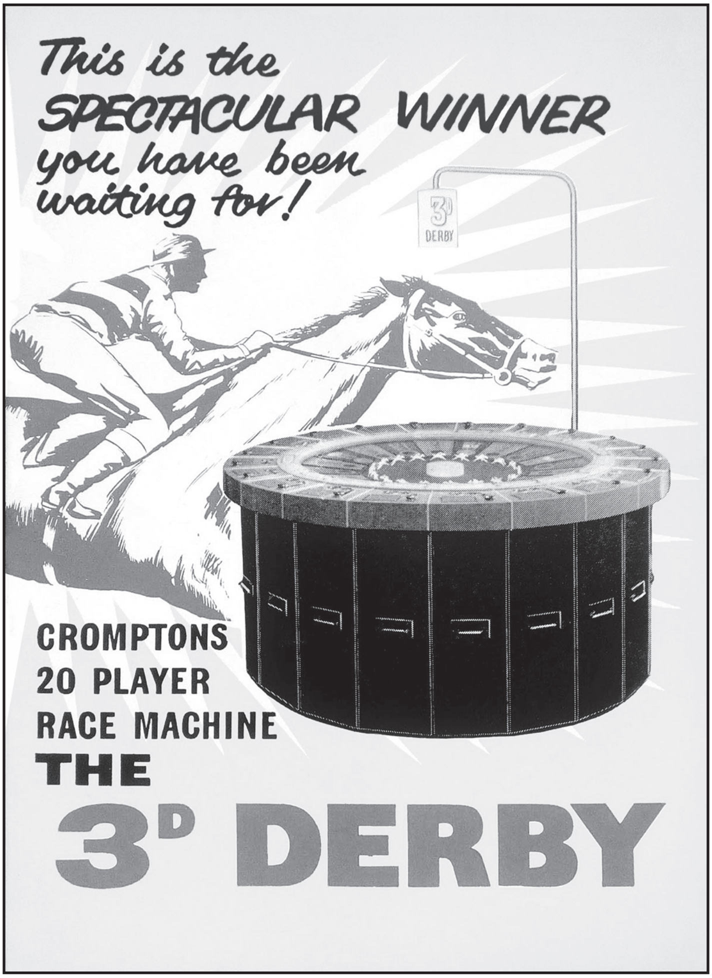
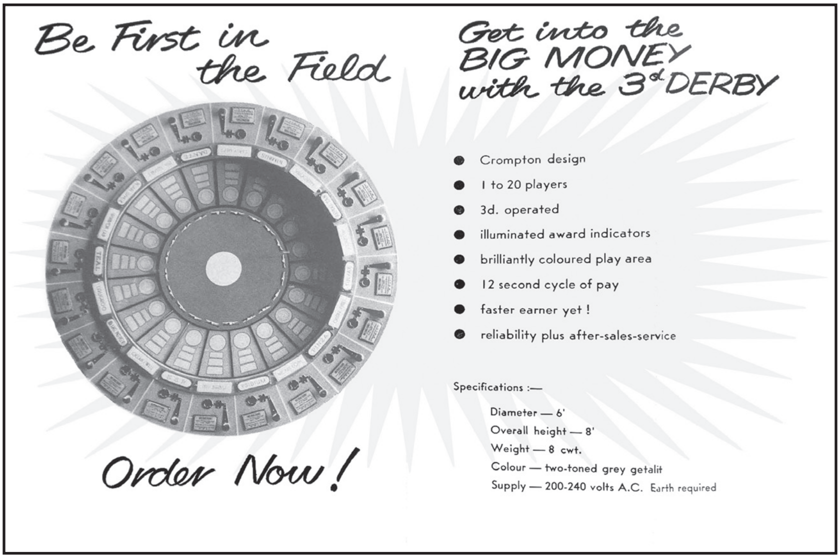

This is the
SPECTACULAR WINNER
you have been
waiting for!
3D
DERBY
CROMPTONS
20 PLAYER
RACE MACHINE
THE
3D DERBY

Figure 3.5
Cromptons' *3d Derby Racer* advertising brochure, exterior. Adapted from Penny-machines.co.uk, Robert Rowland's collection.

Derby Racer was a circular, horse-racing-themed multiplayer game patented by the Cromptons in February 1962,[22] described as "the world's first 20-player coin-operated centre-piece machine."[23] Applying gameplay mechanics from *Six-Way* and roulette, players backed a racehorse by inserting a coin in one of the twenty player positions. Lights on the machine illuminated in quick succession during the machine's twelve-second play cycle, and the player whose horse won received a cash payout. The machine



Be First in the Field

Get into the BIG MONEY with the 3d DERBY

- Crompton design
- 1 to 20 players
- 3d. operated
- illuminated award indicators
- brilliantly coloured play area
- 12 second cycle of pay
- faster earner yet !
- reliability plus after-sales-service

Specifications :—

Diameter — 6'
Overall height — 8'
Weight — 8 cwt.
Colour — two-toned grey getalit
Supply — 200-240 volts A.C. Earth required

Order Now!

Figure 3.6

Cromptons' *3d Derby Racer* advertising flyer, interior detail. Adapted from Pennymachines.co.uk, Robert Rowland's collection.

was enormous, six feet in diameter, and weighing over 400 kilograms (900 pounds); with a full cash box, this would have been closer to 1,016 kilograms (2,240 pounds)—more than a ton.

Derby Racer was unveiled to a select audience of one hundred and fifty members of the arcade, traveling showfolk, and amusements industries at the luxurious Londoner Hotel in Marylebone. This event became the first of the annual *Cromptons Previews*, and the event was so successful that other manufacturers and distributors adopted it as a way of promoting and selling. The ceremony surrounding the event, something that one might associate with the unveiling of a motorcar, is perhaps best explained by the *Derby Racer*'s unit price. At £1,765, the *Derby Racer* cost more than *three* brand new Austin Mini cars; perhaps more strikingly, it almost cost the same as a three-bedroom, semidetached house in the town where the machine was built. Despite its enormous cost, bulk, and weight, the *Derby Racer* was met with universal praise from the operators and arcade owners; orders followed, and the first machine was put into operation in an arcade at Leysdown, on the Isle of Sheppey, just before the Whitsun holiday in 1962.

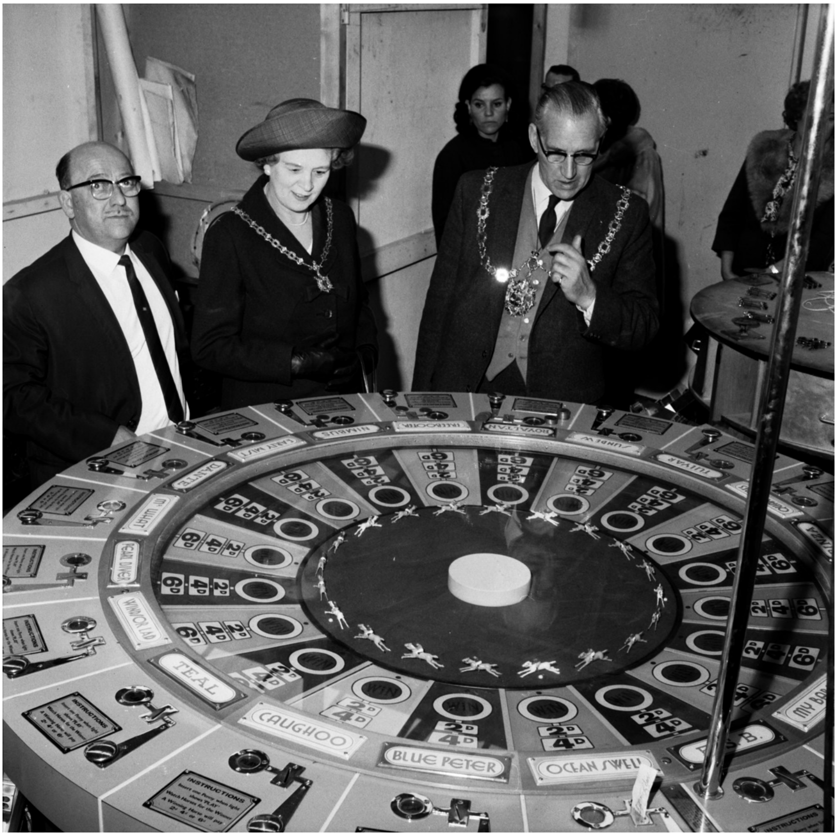


Figure 3.7
Jim Crompton (left) and the *Derby Racer* machine at an Alf Crompton Amusement Machines factory visit by the mayor and his wife of Ramsgate (right and center). South East Archive of Seaside Photography, CCCU.

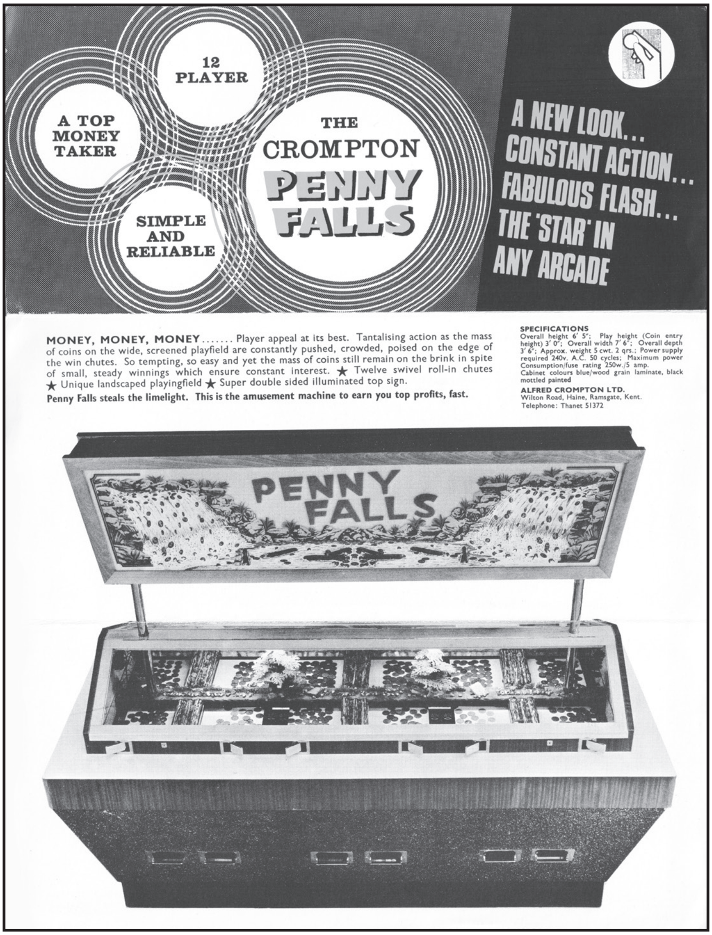
One prominent operator, Dave Rogers (who went on to be an influential character in the British coin-operated trade), operated three *Derby Racer* machines at the Battersea Park Pleasure Gardens. After Rogers had bought two machines, Jim recalled receiving a phone call from him: “Jim, I don’t know whether to buy another *Derby Racer* or a new house!”[24] After a little more discussion, where Jim explained the time frame and availability of the machine, Rogers replied: “I’m going to buy another one of your machines, Jim, because I’ll get more money back on that.” Similarly, after hearing Jim Crompton’s full sales patter, Billy Manning, a renowned owner of arcades on Clarence Pier, Southsea, was challenged by one of his companions, shocked to hear how much the machine cost: "You're not going to buy one at THAT price, are you Billy?"[25] Manning's response was to adopt a look of faux-injury, held for dramatic tension, before shouting, "Buy one? Of course not! I'm going to buy two!" As the story goes, ever the showman entertainer, Manning promptly took a checkbook out of his pocket and wrote a check for the full payment on the spot.

Machines like the *Derby Racer*, *Archers* and *Film Star* established Cromptons as a major manufacturer in the post–Gaming Act market conditions; operators understood the machines that they made and appreciated their durability and reliability, and the public responded well to the tactile electromechanic designs. Furthermore, large machines that responded to the limitations of the act were refreshing and spectacular and were quite unlike anything being made in other countries or jurisdictions. Machines such as *Derby Racer* were a product of the specific market conditions created in Britain, but they were equally subject to changes to these conditions. It soon became apparent that the public was as captivated by the *Derby Racer* as they had been with the *Six-Way* and *Film Star* machines that preceded it. In addition to strong national demand for the *Derby Racer*, there was interest from Europe, and the machine was exported to amusement parks in Sweden, Belgium, and France.

It appears that the division of labor between the brothers became a source of tension, with Jim traveling the country to drum up sales and Alf focusing on machine development. Jim desired greater involvement in design and manufacture than he was allowed by Alf, and he began to focus increasingly on solo ventures, which he ran through Jim Crompton Ltd., a company he formed in 1964. While the brothers continued to collaborate, with Jim leading sales, he was less involved with the day-to-day operation of Alfred Crompton (Amusements), and ran an arcade in Blackpool overseen by a former showman, Ivor Roberts, when he was at the factory some 300 miles away in Ramsgate.

On June 21, 1966, Alf died suddenly at fifty years of age.[26] By this point, Alfred Crompton (Amusements) had become one of the most prominent manufacturers of coin-operated machines in Britain, through a combination of Alf's engineering skill and Jim's sales panache. The company employed more than 150 staff, and their Ramsgate factories occupied 30,000 square feet of space.[27] Jim immediately took over as company director, but then he learned that the company's financial situation was worse than he had assumed, due to gradually slowing sales for successive *Six-Way* variants and *Derby Racer*.[28] Crompton convinced Roberts to assist him as joint manager, and the company's staff focused on developing new machines and attracting buyers.[29] *Penny Falls* was the product of this effort (see figure 3.8).

Penny Falls was a large, rectangular AWP machine, considered to be the first coin-pusher and a machine that remains central to British arcades to


12 PLAYER
A TOP MONEY TAKER
THE CROMPTON PENNY FALLS
SIMPLE AND RELIABLE
A NEW LOOK... CONSTANT ACTION... FABULOUS FLASH... THE 'STAR' IN ANY ARCADE
PENNY FALLS

MONEY, MONEY, MONEY....... Player appeal at its best. Tantalising action as the mass of coins on the wide, screened playfield are constantly pushed, crowded, poised on the edge of the win chutes. So tempting, so easy and yet the mass of coins still remain on the brink in spite of small, steady winnings which ensure constant interest. ★ Twelve swivel roll-in chutes ★ Unique landscaped playingfield ★ Super double sided illuminated top sign.

Penny Falls steals the limelight. This is the amusement machine to earn you top profits, fast.

SPECIFICATIONS
Overall height 6′ 5″; Play height (Coin entry height) 3′ 0″; Overall width 7′ 6″; Overall depth 3′ 6″; Approx. weight 5 cwt. 2 qrs.; Power supply required 240v. A.C. 50 cycles; Maximum power Consumption/fuse rating 250w./5 amp.
Cabinet colours blue/wood grain laminate, black mottled painted

ALFRED CROMPTON LTD.
Wilton Road, Haine, Ramsgate, Kent.
Telephone: Thanet 51372

Figure 3.8

Flyer for Cromptons' *Penny Falls*, 1966, which was the first coin-pusher machine. Nic Costa Archive, CCCU.

this day. The machine measures approximately seven-and-a-half by three-and-a-half feet wide, with twelve coin-slots. Players insert coins that roll along runners before landing on a flat, horizontal platform, covered in coins, that steadily moves backward and forward. If coin insertion is timed correctly, new coins push those already on the platforms forward, and some of these eventually fall into a chute and go to the player (though some are diverted into a hidden hopper to ensure profitability). The pleasure of the pusher comes from selecting areas to add coins; the timing and judgment involved, the unpredictable ways that coins overlap, bunch, and hang over the winning chute, and the loud clatter of coins as the player wins. As you play, you hope that your coin will dislodge ten or twenty more coins into the payout chute, but even when this happens, there's a compulsion to feed winnings straight back into the machine—the pleasure comes from the playing, not the winning. The machine's glass "flash" depicts a river of pennies dropping over a waterfall and logs floating downstream, and this design was echoed on the playfield, which included miniature trees and bushes. *Penny Falls* is the archetypal coin pusher, a design that has remained fundamentally unchanged for more than fifty years and that has been exported and adopted globally.

Unusually (and this was likely due to the circumstances surrounding the design, Alf Crompton's death, and the collaboration between Jim Crompton and Roberts), *Penny Falls* was *not* patented. It is also unclear what contribution Roberts made to the design, although *Coin Slot* newspaper's coverage of the machine's launch attributed the design to him. Jim Crompton later characterized the decision not to patent as an error of judgment, not realizing that the machine, seen as an iterative improvement of an earlier Cromptons machine, *Wheel-a-Win*, would be a success: "We didn't know it at the time, but we had created an all-time great. The pusher is an evergreen. It will last forever. Sadly, we thought it would only last for three or four years so we didn't bother to patent it. We would have made a fortune if we had."[30]

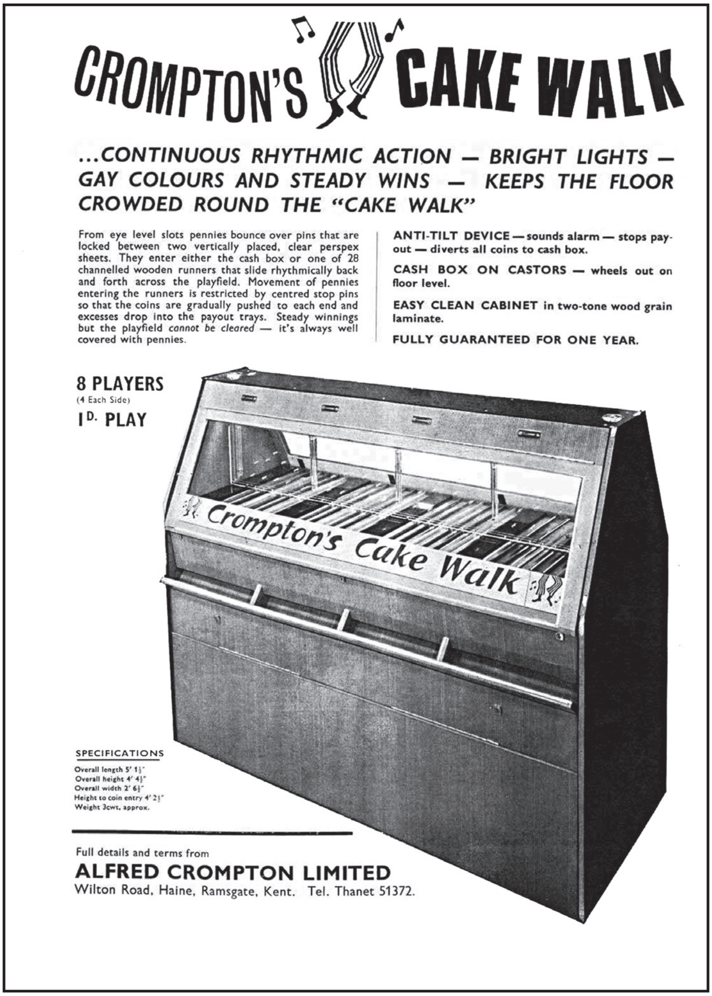
Despite this, Crompton had more immediate concerns: returning the company to liquidity. He reached out to his established showfolk and arcade industry contacts. It was Dave Rogers, who had previously operated three *Derby Racer* machines at Battersea Park Pleasure Gardens, had been an early advocate for the *Film Star,* and was now working for the major distributor London Coin (owned by Forte Holdings), who came to the company's aid. Rogers placed an order for ten *Penny Falls* machines, making full payment within the week. *London Coin*'s confidence in the machine was noticed throughout the trade, and a deluge of orders followed, accounting for ten months of factory output and returning the company to financial stability.

Coin-pushers became the backbone of Cromptons' output, with variations and improvements released continually. In November 1967, at the sixth annual *Cromptons Preview*, the successor to the *Penny Falls*—the *Cake Walk*—was unveiled (see figure 3.9). *Cake Walk* was reportedly designed in collaboration with Sam Bennett, a Lancastrian showman, and was a compact pusher, ideally proportioned for operation in smaller arcades and traveling fairgrounds. *Cake Walk* became the best-selling pusher in Britain, and yet the machine's success (and the absence of a design patent) did not go unnoticed, and several companies began to manufacture similar machines.

The Crompton story illustrates the close connections between showfolk communities and the popular adoption of coin-operated machines. It also shows the links between British engineering (automotive, electromechanical, military, and aerospace) and the coin-operated manufacturing trade. Would the *Film Star, Penny Falls*, or *Derby Racer* have been as successful without high-quality engineering and a salesman who was well known and trusted by showfolk, or without the advocacy of Bates in previous years? Almost certainly not. This illustrates the complexity of the coin-operated trade, highlighting that the adoption of machines is not technologically led as the mythic arcade might suggest, and relies on showfolk, trust and reputation.

Bell-Fruit—from American Automatics to British Fruit Machines

In 1945, Ben Wise, a salesman for the National Cash Register Company, came up with the idea of buying old cash registers cheaply, storing them for the duration of the war, and then reissuing them in a refurbished condition.[31] He raised this with a director from the company who opposed the idea, and Wise founded the Wise Cash Register Company, based at Leen Gate, Nottingham. Wise Cash Register Company produced some moderately successful cash registers throughout the 1950s, but Wise never saw the great profits he'd hoped for. While cash registers were relatively profitable, it was their mechanical similarity to fruit machines that was key to the development of Bell-Fruit, a company that radically affected Britain's


Crompton's Cake Walk

CROMPTON'S CAKE WALK

...CONTINUOUS RHYTHMIC ACTION — BRIGHT LIGHTS — GAY COLOURS AND STEADY WINS — KEEPS THE FLOOR CROWDED ROUND THE "CAKE WALK"

From eye level slots pennies bounce over pins that are locked between two vertically placed, clear perspex sheets. They enter either the cash box or one of 28 channelled wooden runners that slide rhythmically back and forth across the playfield. Movement of pennies entering the runners is restricted by centred stop pins so that the coins are gradually pushed to each end and excesses drop into the payout trays. Steady winnings but the playfield *cannot be cleared* — it's always well covered with pennies.

ANTI-TILT DEVICE — sounds alarm — stops pay-out — diverts all coins to cash box.

CASH BOX ON CASTORS — wheels out on floor level.

EASY CLEAN CABINET in two-tone wood grain laminate.

FULLY GUARANTEED FOR ONE YEAR.

8 PLAYERS
(4 Each Side)
1^{D.} PLAY

SPECIFICATIONS
Overall length 5′ 1½″
Overall height 4′ 4½″
Overall width 2′ 6½″
Height to coin entry 4′ 2½″
Weight 3cwt. approx.

Full details and terms from
ALFRED CROMPTON LIMITED
Wilton Road, Haine, Ramsgate, Kent. Tel. Thanet 51372.

Figure 3.9
Cromptons' *Cake Walk* advertising flyer. Nic Costa Archive, CCCU.

coin-operated landscape and its arcade history. Bell-Fruit can be understood as the company that transferred the pioneering American slot machine heritage to Britain.

In 1961, Wise Cash Register Company collapsed under its debts, and the receivers advertised the Leen Gate factory for sale or disposal in the *Financial Times* newspaper. This was seen by an American called Kenyon Wilkinson, known as "Wilky," who worked at the British company Balfour

Engineering, which made *Bel-Ami* jukeboxes. Like so many others in the industry, Wilky had imported German fruit machines into Britain in the late 1950s and was aware of the profits of importation and market exploitation. Ever the entrepreneur, and with an appetite for even more ambitious importation projects, Wilky negotiated the purchase of the machine tools that had been used by Chicago-based Watlings to make its automatics.[32] Following the passage of the 1951 Johnson Act in the US, Watlings had abandoned the automatic trade in preference for weighing scales, and the machine tools and parts had been carefully stored in Nevada. In 1961, when Britain relaxed its wartime currency exchange and importation restrictions, Wilky took the opportunity to buy the mothballed machine parts and partly assembled machines and import them into Britain via a circuitous route through France and Ireland.[33] Wilky began constructing fruit machines in partnership with Balfour Engineering, and the machines were snapped up by arcade and club owners after the 1960 Gaming Act passed.

After seeing the ad for the debt-ridden Wise Cash Register Company, and thinking of its skilled engineering workforce and the machine tools, Wilky broke ties with Balfour and seized the opportunity. He raised the financing and bought the Wise Cash Register Company for the debt value of £25,000, paid via a £500-per-month agreement.[34] The company continued to make cash registers too, but behind the scenes, the engineers pored over the tools and parts in an attempt to make sense of the machinery.

In October 1961, two months after Wilky took ownership of the company, he hired Peter Quaintmere (PQ), an engineer who had served his apprenticeship with Avro, the manufacturers of the Vulcan bomber. PQ's job was to rationalize the many tons of fruit-machine tooling, castings, and molds, which had been sent from Nevada, and "to complete sets of drawings that had been shipped over . . . only half completed."[35] With the assistance of a team of drafters, PQ produced a set of engineering plans detailing how to construct fruit machines to British specifications and identified British suppliers for the raw materials required to build them. PQ and Bill Haywood, the chief engineer for the company, set about building their first fruit machine, called *Robin Hood*. On July 15, 1963, Wilky founded Bell-Fruit, specializing in fruit-machine manufacture, unveiled *Robin Hood* to the arcade industry, and swiftly followed with the *Tic Tac Toe, Line 'em Up*, and *7T* machines. Automatics, once an American product, were being naturalized and innovated in Britain.

By the mid-1960s, the British coin-machine landscape included arcades, gaming clubs, bingo halls, and individually sited machines in locations such as cafés, and pubs, but it was still rapidly expanding. The pub, an undoubtedly important part of British life, had long been a location where coin-operated machines were sited, but not in a systematic way. British pubs are either tied to a specific brewery and required to sell its beers and adhere to brewery rules, or are "free houses," where the landlord is able to stock beer from any brewer. While landlords were at liberty to site coin-operated machines, Bell-Fruit's Wilky saw the many tens of thousands of tied pubs as an enormous opportunity. If major breweries could be convinced to insist that Bell-Fruit machines (and Bell-Fruit machines only) be placed in their tied pubs, then the potential income would be colossal. According to a company history produced for Bell-Fruit's twenty-fifth anniversary, it took all of Wilky's "high-pressure salesmanship"[36] to get the London-based Charrington brewery to agree to the proposal, soon followed by Watneys, Britain's largest brewery at the time. This was done by replacing the symbols on the fruit-machine reels with logos from the brewery's beers as advertising, and approving a profit-sharing agreement that was very favorable to the brewery. According to a permit hearing held in Norwich in 1966, "only four of every 100 sixpences fed in were retained by the manufacturer. The equivalent of 90 were paid out and the remaining six were a matter to be decided between the licensee and the brewery."[37]

Even with an apparently meager 4 percent return, the size of the pub market meant that this was a major coup for Bell-Fruit. Unfortunately, Wilky had not accounted for the scale of brewery orders that followed, and Bell-Fruit were left drastically undercapitalized to fulfill the orders at the necessary pace. In June 1966, Cope Allman, a Birmingham-based engineering conglomerate, bought a majority shareholding of Bell-Fruit and eventually took control of the company. Cope Allman installed Dr. Bill Pilkington as company director and injected the capital required to fill the brewery machine orders. From this point forward, Bell-Fruit became a major force in the British fruit machine market—a British-owned company that built fruit machines to British specifications using the tools and processes from American automatics.

By creating a partnership with pubs, which were so central to the fabric of British leisure (albeit primarily for male and working-class customers), and by using the machine tools that had driven the American slot machine industry, Bell-Fruit revolutionized and modernized the British coin-operated industry. Its rise also marks the point where dominance of the international development of automatics transferred from North America to Britain. Once more, we see that the British industry is international in its outlook. We have Wilky, an American citizen who was mindful of the changing British legislation around capital importations and conscious of earlier entrepreneurial importation opportunities from Germany. We also see the connection between gambling and British culture, through formalizing the brewery fruit machine market. This step likely neutralized some public concerns about the threat of fruit machines and gambling, or the association between the fruit machines now sited in practically every British boozer and American organized crime. In turn, the naturalized, British-looking machines—after all, what could be more British than a fruit machine where the reels are covered in beer logos and Toby jugs—made coin-operated gambling a normal part of mundane British leisure.

Phonographic Equipment—Distribution

At the same time that the Crompton brothers purchased their Ramsgate factory, two refrigerator rental company owners, Cyril Shack and Gordon Marks, decided to test the jukebox operation market. Forming Phonographic Equipment, they sited Bel-Ami jukeboxes in cafés and pubs around London, and this proved so lucrative that they abandoned refrigerators to focus on operating and distributing all types of coin-operated machines. In two years, Phonographic Equipment had become the largest coin-op distributor in Europe, stocking Sega fruit machines, Williams pinballs, and a variety of other American and British machines. Phonographic Equipment would become instrumental in the development of the British arcade in the following years, and salespeople for the firm, such as Michael Green, had enormous individual impact on the industry in years to follow.

Green was born in London in 1936; his father had run a freak show on Blackpool's Golden Mile just before the outbreak of World War II, but he now owned a jewelry business. In 1954, at the age of eighteen, Green ran the Flamingo, a popular coffee bar in Kensington, London, with his sister. Noticing their popularity, Green convinced his sister to install a Rock-Ola jukebox in the café. The takings were good, but following visits to London machine distributors such as Phonographic Equipment and advice gleaned at the coin-operated machine trade shows that Green attended, they soon upgraded to a Seeberg jukebox that improved income by one-quarter. So impressed by the machine's profitability, and aware that seemingly small factors such as the choice of model had major impacts upon earnings, Green and his brother-in-law formed an operating company called Greenlea Automatics. Their company initially sited jukeboxes and pintables in cafés and bars, but it later became involved in fruit machines, including some with pre–Gaming Act illegal jackpots. As he purchased machines, Green became acquainted with the distributors and manufacturers of the time, including Ruffler & Walker and Phonographic Equipment. However, Green's foray into operation did not succeed:

> I had 20 machines in private drinking clubs in the Bayswater area of London. Because of our major expansion these machines were bought on hire-purchase, which in those days needed a personal guarantee. One weekend all the fruit machines were stolen and this caused us to wind up the company and having to still pay off one of the finance companies, which pursued the guarantee.[38]

Green was approached by Phonographic Equipment, wanting to purchase the remainder of Greenlea Automatics' stock as part of an expansion drive. However, as the guarantor for the stolen machines' loan, he had no choice but to keep making the purchase repayments, taking him five years to clear. It was evident that the coin-machine industry was profitable but risky, which was exacerbated when machines were operated in breach of the 1960 Gaming Act. Despite their illegality, during the 1950s, fruit machines were subject to inconsistent policing and were found in the most unexpected and everyday places. Manufacturers produced automatics that were sized to be easily moved and hidden from prying eyes, while others converted them to look like radios or other domestic objects. Colin Mallery described "mini fruit machines," designed to be inconspicuous and easily removed during the 1950s:

> They'd just put it under the counter! Spring it out, put it up on the counter to play. Some customers who knew what it was would play it for a long time and there were people queuing up to play it. They knew most of the customers, if there was someone the guys didn't know, then they'd just whip it under the counter. This would happen in a bar, anywhere, I remember one being in a greengrocers.[39]

Apparently, the greengrocer in question became increasingly blasé about gambling laws and installed a full-sized Jennings' *Governor* fruit machine in his shop—*hidden behind a curtain*. The *Governor* was one of the iconic

American fruit machines of this period, featuring polished brass American Indian heads that became a much-loved characteristic of the machines. When trusted patrons were in the shop, the curtain would be opened to show the machine and closed when newcomers arrived. Evidently the greengrocer's bravado was misplaced, as Mallery pointed out that "he got done in the end."[40]

Following the 1960 Gaming Act, Phonographic Equipment became a major force in the supply and distribution of coin-operated equipment in Britain. They obtained exclusive distribution rights for the Bally Manufacturing Company of Chicago, which made popular upright gaming machines including the *Bally Super Treble Chance*. Bally and Sega machines had become the most profitable AWPs in the country, and Phonographic Equipment sold them all. As Phonographic Equipment's profits rose, they began a process of aggressive expansion, buying smaller operators to bolster their reach and influence. Mike Green's struggling Greenlea Automatics was one of the companies bought out, becoming a subsidiary of Phonographic Equipment, and Phonographic's director, Cyril Shack, offered Green a job as a salesman in the company.[41]

In his role at Phonographic Equipment, Green had a route of 400 machines sited in various locations. His job was to travel along the route, emptying and maintaining the machines and talking with site and arcade owners to identify locations where additional machines could be placed. Green soon became familiar with which machines suited seaside and inland arcades and smaller sites, but he found that outside the capital, the sanddancers were reluctant to deal with Phonographic Equipment. According to Green, former showfolk had strong loyalties to longstanding distributors such as the Shefras Novelty Company, Horowitz, and Ruffler & Walker, and it became apparent that besides the need to build trust, Phonographic Equipment's focus on jukeboxes and American automatics was a poor fit for the seaside arcade.[42] Seaside arcade owners, catering to vacationing families, wanted a softer machine mix that included amusement-only machines that Phonographic Equipment did not stock. Green relayed this news to the Phonographic Equipment directors, and he was tasked with expanding the company's amusements provision.

Green began working with manufacturers to develop new amusement machines that Phonographic could sell; he therefore played a critical role in the British industry as a bridge between the arcades, manufacturers, and distributors, and he became one of the most knowledgeable coin-op salesmen in Britain for the next fifty years. Green traveled extensively in the UK, Europe, and the US, touring the Bally, Gottlieb, Midway, Williams, Seeburg, Rock-Ola, United, and Chicago Coin factories, and visiting the *Music Operators of America (MOA)* shows, held in Chicago. On their travels, Green and the other Phonographic Equipment directors built longstanding relationships with American industry luminaries—Bill O'Donnell of Bally, Sam Stern of Williams, Hank Ross of Midway, and, using Green's phrasing, "the mercurial Marty Bromley,"[43] founder of Service Games (Sega as of 1965) and his colleagues Dick Stuart and Ray Lemaire. Green got to know several British manufacturers including Erik Whittaker, and Eddie Carter of Mayfield Electronics, and Phonographic Equipment began to stock and promote their amusement-focused machines.

By 1964, the demand for Bally fruit machines had become so great that Phonographic Equipment began air-freighting machines into Britain and became Bally's largest distributor worldwide.[44] Britain had become such a significant market, and Phonographic Equipment's role in that market so great, that Cyril Shack convinced the American manufacturer Bally's Bill O'Donnell to construct machines specifically for the British legal and cultural landscape.[45] Following in the footsteps of Bell-Fruit, Bally agreed to develop pub and arcade AWPs including the 1965 *Bally Jolly Joker,* and *Gold Award*, and the 1966 *Sir Prize*, and the *Penny Belle* machines. These new machines did fantastically well, and at their peak, Phonographic Equipment was "flying machines into the country five nights a week with the shipments of 100 machines per shipment."[46] Freddy Bailey recalled that "operators would be lined up in their vans waiting for machines to arrive."[47] In the vacuum created by Bell-Fruit's production capacity issues, American machines once more dominated the British coin-machine landscape and "*Bally* machines virtually killed the market for *Sega* and *Jennings*."[48]

In October 1967, Phonographic Equipment and Ruffler & Walker, another major distributor, announced a merger, becoming Phonographic Ruffler & Walker (PRW).[49] Ruffler & Walker had become one of Britain's largest jukebox distributors by the mid-1960s and were agents for major American fruit machine and pinball manufacturers Jennings and Gottleib. As a merged company, PRW was colossal. In addition to distribution, it had machine and spare-parts manufacturing capabilities and arcade operation divisions. The merger allowed consolidation of resources and gave PRW enormous influence over the British coin-machine industry. It could sell levels of stock and negotiate bulk prices on a scale unmatched in the industry and, by having a manufacturing division, it could ensure excellent after-sales service and machine operability, all of which resulted in savings for the customer and profit for PRW.

Importantly, this merger removed some of the resistance any arcade operators had, as Phonographic and Ruffler & Walker were now the same company. Shortly after the merger, Fred Walker retired from the trade, and for eighteen transitory months, Bill Ruffler became joint managing director of PRW alongside Cyril Shack and Gordon Marks.[50] Ruffler left PRW far richer in 1968, using his dividends to establish finance and property companies including Ruffler Bank, willing to fund investment in the arcade trade when other banks would not.

The first *Phonographic Ruffler & Walker Preview*, held in November 1968, adopted the Cromptons' event model and gives an indication of the power that PRW had. Based at the exclusive Royal Lancaster Hotel in London, the preview was the largest exhibition of amusement equipment ever organized by a single company, containing more than 300 machines valued at around £100,000.[51] A total of 3,000 industry members attended the preview, which included the announcement of finance plans for machine purchase, and culminated in a raffle for a Renault 120 car. PRW also boasted "the world's largest showroom of all types of amusement and gaming equipment,"—its Midlands Sales Division depot occupied 100,000 square feet of a converted British Railways granary warehouse and held 50,000 individual pieces of equipment.[52]

It was recognized that vertical integration such as that done with great effect by Rank and Forte Holdings, was advantageous, and PRW attempted to do a similar thing. The company invested in impressive city-center arcades such as the Sun Spot in Manchester (Piccadilly) and London (St John's Hill, Clapham Junction), which acted not only as arcades but also as showrooms and test sites for prototype machines. The company also purchased Sterling and Michael's large Piccadilly arcade, which had once housed an enormous basement rifle range. These distributor-owned arcades became quite distinctive, located in city centers, filled with the very best machines, boasting luxurious décor, and catering to an affluent urban clientele. The opening of the London Sun Spot arcade emphasized its exclusivity, further developing the trend that began with Tom Lane's Amusements, Blackpool, described as follows: "designed to provide maximum comfort and luxury surroundings for the growing number of punters who have been brought up in the affluent society. The walls, covered here in dark blue velvet-pile flock nylon, bear the *Sun Spot* 'flaming sun' insignia, and are carefully matched to the dark blue thick Wilton carpeting."[53]

The relationship between distributors, arcades, and manufacturers was close and international in scope, with salespeople reporting the demands of arcade owners, the peculiarities of British law, and the successes, failures, and opportunities raised by competitors in the field. It was not that manufacture and sales are distinct, but rather work as an interconnected web—technology, manufacturing, sales, operation, and public tastes all linked together. This was seen with Bally responding to Bell-Fruit's inability to supply the pub market that it had created. It was evident that even by the mid-1960s, the coin-op market was international in its outlook, and that Britain had not just become the most significant global market for fruit machines, but due to the growth caused by the 1960 Gaming Act, all types of coin-operated machines. The liberalization of gambling caused by the act evidently had profound impacts on the British and international coin-operated industry. This reporting and suggestion of new machine designs were not limited to familiar machine types like fruit machines, nor American manufacturers, and manufacturers were willing to copy and innovate on even the newest machines created by other companies. This is well illustrated with the case of Mayfield Electronics' *Penny Lanes*.

Seeing the popularity of Cromptons' *Cake Walk* coin-pusher, Phonographic Equipment's Mike Green commissioned Eddie Carter of Mayfield Electronics to produce a similar pusher for the company to sell. Green recalled Carter's response: "Give me three weeks, lad, and it will be ready."[54] Unfortunately, when Carter delivered the prototype machine in early 1967, it was totally unsuitable. Green explained: "I went to his factory in Chadderton near Manchester, and to my horror, he showed me a machine that was an exact copy of Cake Walk. I told him there was no way we could sell it . . ."[55]

Given a revised brief to adapt the machine's principles to a circular cabinet, Carter delivered another prototype three weeks later. The new machine was excellent and unlike any other, but it lacked a name. Having just done the long drive from London to Mayfield's Manchester factory, Green had heard the Beatles' song "Penny Lane" played repeatedly on the radio. On his arrival, he suggested the unnamed machine be christened *Penny Lanes*, and it went on to be one of Mayfield Electronics' most successful machines (and quite profitable for Phonographic Equipment) and cemented Green's productive relationship with the company's designers.

In November 1967, not long after *Penny Lanes* had gone into production, Eddie Carter's son, Alan Carter, left Mayfield Electronics to found a new company with designer Geoff Ellis. The company, called Alca Electronics (from the first two letters of Alan Carter's name), was three-quarters owned by a successful and well-traveled Manchester machine operator called Jimmy Horrocks.[56] Alca eventually rose to be among the most influential coin-operated companies in Europe during the 1970s. Unlike many other manufacturers, Alca did not produce AWPs, but rather focused on the novelty machine market, especially electromechanical games like those being made by Sega (and indeed Mayfield Electronics). In early 1968, one of Alca's first machines, *Attack*, was demonstrated at the 24th Amusement Trades exhibition to considerable acclaim:

> One of the major attractions on the stand was the latest two-player electronic shooter named simply Attack and manufactured by Alca Electronics. The player shoots at tanks and odd snipers as they emerge from behind the hills. Special features of the machine are the flashing and sound effects as shots are fired and the mounting of machines on swivels so that the player can sit on the gun.[57]

Alca rapidly built a reputation for innovative games, and by November 1968, it was being exclusively represented by Phonographic Equipment, negotiated by Michael Green. Alca's manufacturing process was novel for the time—it built a new machine from concept to prototype. Once a prototype had passed usage tests, the manufacture of electrics, mechanics, wooden cabinets, glass and Perspex signage, printing, stenciling, and audio components (something Geoff Ellis felt were overlooked by other companies and critical to the playing appeal of Alca machines) were all outsourced to external linked manufacturers.[58] Alca's thirty or so employees then assembled the parts and dispatched the machines to customers. This approach proved well suited to the export market, and Alca held a stock of modular coin-mechanisms for the ten most commonly used currencies. Their focus on novelty machines and modular coin-mechanisms ensured that Alca machines were adopted not only in Britain, but throughout Europe. Alca's expansion during this period was unprecedented, soon moving from premises in the Old King's Mill cotton factory in Oldham to a factory ten to fifteen times larger. The company excelled at electromechanical shooter machines, many of which bore close resemblance to other companies' popular releases. The company produced *Night Bomber, Torpedo Shoot, Single Attack, Loony Shoot, Tank Assault, Sqosho*, and *Super Missile*, each machine more refined and complex than the last.

Horrocks was by no means a silent partner; he advised machine development in a similar way that Green had with Mayfield's *Penny Lanes*. According to Green, Horrocks had seen Sega's 1969 *Missile* amusement game at a German trade show, which was good but "quite expensive."[59] Horrocks asked Alca owner Alan Carter "if he could see how the machine worked and build one at half the price." Hearing the conversation, Dave Rogers, then working at London Coin, said he would give Alca an order for 100 machines if it could be done. Geoff Ellis, designer of *Penny Lanes*, created an ingenious machine using a two-way mirror (some claim that this was the first use of a two-way mirror in an amusement game), which was called *Super Missile*. In January 1970, *Super Missile* was particularly well received at the *Phonographic Ruffler & Walker Preview* exhibition, with 300 machines ordered by visitors, more than half of which were exported onto the continent.[60]

According to Green, Alca's *Super Missile* was excellent, demonstrating the company's ingenuity, and it "killed the Sega machine."[61] Alca's ability to rapidly make similar electromechanical machines to those being built by companies like Sega, Midway, and Cromptons, often with innovative technology and at lower cost, caught the attention of many within the international trade. One person who paid attention to both Alca and Green's salesmanship was Marty Bromley—the man who had created Sega—and this became very significant to the development of the international arcade industry in later years.

Finally, this discussion raises the point that copying, reverse engineering, and incremental innovation are central to the international coin-machine industry, and that this trend—seen with imitation and innovation of the nineteenth-century *Pickwick*s—continued well into the twentieth century (and is still seen with contemporary copies of Sega arcade videogames to this day). The history of Phonographic Equipment—then the largest coin-operated machine distributor in Europe—highlights several themes. Once more, the international nature of the industry is apparent, as is its scale—the British coin-machine industry became the largest in the world during the late 1960s. But it also highlights the close relationship between distribution and manufacturing, as well as the critical role of salespeople who acted as intermediaries between sanddancers, manufacturers, distributors—and at the point of consumption—arcade audiences.

4 “Get This Lousy Piece of Legislation Put Right”

The rush by so many people to set up amusement arcades, clubs and bingo halls, as well as the proliferation of machines in pubs, began to cause problems on a local level. In an attempt to increase profits and better capture vacationing crowds, some arcade owners disobeyed long-standing municipal restrictions that governed site opening times by opening their arcades seven days a week. At the same time, local planning officers faced massive growth in the number of applications for new arcades. The subject of Sunday opening briefly became a contentious issue, and several arcade owners found themselves subject to challenges from civic and religious groups. Frank Booth, a well-known Welsh arcade operator, experienced this in the town of Tenby in March 1967.[1] The Amusement Caterers Association (ACA) trade body was quick to defend Booth; the challenge was removed, and Booth’s arcade and others around the country began operating for extended hours, seven days a week. There is a sense that in the 1960s, supported by an increasingly organized application process and with the contribution of companies like Rank, Bell-Fruit, and Phonographic Equipment, not to mention the coin-operated trade bodies, the arcade industry was able to outmaneuver local planners and civic councils.

Changes were also made to the duration of the arcade trading season. While most seaside arcades closed when the last tourists left in the second week of September, some pioneering arcade owners decided to stay open. Jimmy Thomas remembered the response when his father did so with his arcade in Hunstanton:

> People said he’s crackers, he’s crazy he can’t do it, Hunstanton only has locals here in the winter! But of course, in no time at all they realized he’d got a very lucrative business because he was open fifty-two weeks a year. In a seaside town like Blackpool there are enough locals, it’s like any other city, and the locals play in the arcades.[2]

Civic outcries to issues such as arcade opening times and season lengths might now seem inconsequential, but they represented the opening salvoes of a post–1960 Gaming Act pushback against the arcade and its perceived overexpansion. At first, the arcades were dominant in this exchange, and the number of arcade applications was staggering. According to documents shown in a planning appeal, the Welsh seaside town of Rhyl, home to about 19,000 residents, had "twenty-one amusement arcades in which there are something like 1,019 amusement machines" and "fifteen clubs, each with two gaming machines, or one-armed bandits."[3] This equates to an arcade or club for every 500 or so residents and a coin-operated machine for every 15 locals. Being a tourist resort, Rhyl's population would have swelled with vacationing holidaymakers during its summer season, but when the visitors returned home, the arcades remained behind, many of which remained open. The sheer profusion of arcades across the country and the growing number of arcade proposals became a source of public concern—the amusement arcade, especially now open out of season, became viewed by some as a moral hazard.

One prime issue was the inflexibility of planning approval processes that offered councils few suitable mechanisms to limit arcade and club applications once they had been submitted. *Shaw's Guide to the Betting and Gaming Act, 1960* makes it quite clear that any opposition offered by a local authority had to be based on existing zoning issues or the substance of the application, not due to distaste for amusements.[4] Furthermore, council planning committees only had the latitude to approve or reject an application outright; they could not set the conditions, and this binary ruling was unhelpful for those seeking to reasonably plan the development of amenities, and this could be exploited by applicants. As the number of arcades and applications grew, councils began to reject applications, and appeals became entrenched. Applicants felt that the odds were against them and their proposals were being treated with prejudice, but the reality was that a well-presented appeal would be upheld, allowing the arcade to go ahead. The regulations simply delayed the growth of arcades, and the application process became a war of attrition, balanced in favor of the patient and prepared applicant.

Arcade proposers became well versed at overturning rejections, sometimes bringing the combined force of trade body and machine manufacturers against local planning committees. For example, in September 1967, Bell-Fruit Manufacturing, one of the most successful manufacturers of Amusement with Prizes (AWP) fruit machines in Britain, joined United Breweries in opposition to the Swansea Council's opposition to gaming machines in public houses.[5] Challenging the process and substance of the rejection, Rees Davies, representing the manufacturer and brewery, said: "There is a complete void, and there is nothing to show that the Council has its discretion at all. We are told nothing of the committee's discussions. We are simply told this one and only reason for their refusal to grant these applications."[6] In this case, and very many more, the appeals were upheld and permissions for arcades begrudgingly granted. Concerned local planning committees were able to delay the spread of arcades, and perhaps stop the most inexperienced or unprepared applicants, but it could not, and did not, stop serious applicants.

Jimmy Thomas Showboat Expansion

One of the most serious applicants was Jimmy Thomas. Thomas was born in 1934 in Leicester to a traveling showfolk and arcade operating family. The Thomas family ran a number of entertainment venues, including Cleethorpes Olympia, a prominent music hall that featured many of the headlining artists of the time, but Jimmy Thomas grew up in a small arcade attached to a Farmer Giles' Milk Bar in Cank Street, Leicester. Thomas told me that he grew up in the arcade: "I literally learnt to walk between the pintable legs"[7]; and he was given an arcade machine for his tenth birthday in 1944. It was his job to keep the machine working, and naturally he was allowed to pocket any earnings it made. He became adept at maintaining the machines and learned the skills of an arcade operator and engineer, but he also remained an active traveling showman, learning to entertain. Thomas described his early life as follows: "In the summer it was the traveling fairgrounds, and in winter back to the arcades."[8]

By 1955, Thomas had tired of the traveling fair. Wanting to own an arcade but lacking sufficient capital, he and his wife began operating machines in Yorkshire Miners' Welfare clubs and making the most of the personal touch he had developed through years of working on the fair. Thomas boasted that he eventually got a machine in every Miners' Welfare club in the county of Yorkshire. Thomas described this period as follows: "It was graft, it was work seven days a week, fifteen hours a day. And other operators would come along and people would say 'Neee go away lad, we've got Jimmy and his wife.' And it worked, the personal touch worked."[9]

Thomas's graft paid off, though, and with the income from the machines, he was able to purchase his first arcade in Derby. He explained that while the arcade was generally thought of as seaside entertainment, his father's view was, "No, it's entertainment for anybody,"[10] especially for "women who were about shopping or wanted something to do to relax."[11] The logic was that men had pubs to go to, but women had startlingly few leisure options, and this constituted a viable business prospect. While other operators might have stopped there, Thomas was ambitious and pressed the opportunity even further, developing the multiple-site branded arcade chain that he called Showboat, which adopted a Mississippi riverboat theme. Following the Showboat arcades in Derby and Barnsley, he opened one in Loughborough, chosen due to its close proximity to Thomas's manufacturing factory in Quorn, only a few miles away. Thomas was also an entrepreneurial pioneer, having moved from fairground bingo to arcade, to operation, to manufacture, and had developed a consortium of arcade-related companies. The Thomas Group included builders, shopfitters, and interior designers, alongside staff specializing in machine design, manufacture, sales, and operation. Later, Thomas's companies specialized in bingo manufacturing and the construction of automatic change machines found in practically every arcade in the country. All of these divisions were used to build the Showboat chain. Each Showboat arcade's opening was treated as a gala event, featuring well-known television personalities such as Patricia Phoenix, who played Elsie Tanner on the soap opera *Coronation Street* and hence would be familiar to Thomas's target market, the British housewife.[12] The festivities ensured that the Showboat arcade openings were well attended by people who might normally balk at the idea of entering an arcade. And perhaps if they crossed the arcade threshold once, they'd return again. Explaining his vision, Thomas said: "People will know what standard to expect. . . . local authorities will know what to expect. They will know of the high standards and qualities of *Showboats*, and this will, we hope, ease planning applications."[13] Yet obtaining planning approval was rarely an issue for Thomas, who showed a preparedness and diligence toward gaming law and planning processes perhaps unmatched by his contemporaries:

> I was a boffin on the law, gaming law. Nothing else, just gaming. And I had a very, very, good friend called John Harvey QC, and between him and I, we broke most of the barriers in the law, you know. I got through them, found what they really meant and what they said. I went into the law and I never ever lost an appeal,

> I had 80-odd appeals . . . every appeal we took we won. I used John Harvey, John Drinkwater, Richard Beckett, the three top QCs in the land, and between us we know exactly what the law would allow.[14]

Thomas didn’t only study the law; he also assembled a legal team that included some of the best-regarded barristers and solicitors in Britain. In the town of Bedford, the company encountered resistance to a Showboat arcade application. Thomas explained that “the councilor said, I don’t care what you say, I don’t want these places, I’m going to vote against it.”[15] But Thomas’s team’s awareness of the law ensured that they knew when a planning committee had overstepped themselves. When this occurred, as in Bedford, Thomas sued the councilors for damages, explaining: “It worked because when we went to councils, we made sure that they knew that if a councilor opposed us unfairly, we would take them to court, that is, if they opposed us unfairly, just because they didn’t like arcades.”[16]

Through this approach, carefully selecting prime inland locations, ensuring planning approval, using a group of companies to fit out the arcades, and then putting on gala events to build a customer base, Thomas’s Showboat systematically expanded, eventually becoming one of the largest chain of arcades in Europe. But while we can applaud Thomas’s tenacity, preparedness, and foresight, facing a top legal team like his must have felt utterly one-sided and frustrating to those local planning committees.

In August 1968, following a wave of arcade approvals, representatives from South Shields, Tynemouth, Whitley Bay, Sunderland, Northumberland, and Durham county councils lobbied the government for powers to restrict their spread. Councilor Sidney Blackston, the main opponent of Burnley Town Council’s plan to include an arcade in a £5,000,000 ($6.8 million) town center development, said: “There is a real danger of these arcades spreading. They are all right at the seaside but wrong in towns. Once one has been approved, more and more applications will come in.”[17]

By July 1970, Thomas had opened his sixteenth arcade, announcing his intention to open fourteen more within a year.[18] When quizzed by a journalist on how this expansion could be achieved, Thomas emphasized the need to select equipment carefully and understand the law. Thomas stated that “we have always used a wide variety of types of equipment in our centres, so we are not so badly affected by the laws as the operator who used to pack his arcade with a hundred fruit machines.”[19]

The scale of expansion was unheard of. To achieve his ambitious plan to expand the Showboat arcade empire, Thomas took a different approach to planning than did others. Instead of competing with every other arcade owner for sites at seaside resorts, Thomas focused on major inland towns and cities, "always in the main streets, always in the prime positions,"[20] but he found that these locations often had additional restrictions about retail areas that could be used to legitimately oppose an application, and this was the reason why other applicants had failed to build arcades there. The applications were not opposed because the council had objections to arcades, but because the proposals created a break in a line of continuous retail premises, which could hurt business in the area. Thomas's solution was simply to combine retail and arcades in the same building: "I did it by putting retail in the front, because it wasn't a break in the shopping frontage. I'd say no, we're not a break, because we have retail on the front. You go through the retail to the arcade."[21]

Thomas even saw opportunity in the retail frontage used to disguise the arcade, often selling nonperishable luxuries. He explained, "China was marvelous, it didn't fade in the sun in the windows, it didn't deteriorate." The Poole Showboat arcade contained a shop that "became quite famous because it had the best selection of ships in bottles in the country."[22] At a planning hearing to scrutinize a proposed arcade installation, Thomas's team would present officials with drawings of the proposed Showboat building and examples of prior Showboat installations, with the "artist's impression on one side, photograph of a finished shop on the other."[23] Thomas explained that a critical difference was the nature of the clientele seen in the artists' impressions and the photographs of Showboat arcades:

> I'd produce brochures at planning appeals, they would have photographs of women in there, and every one of those women would have a carrier bag with Tesco's on or Marks & Spencer's on, to show that they were shopping. And we said it was part of giving them relief in the day and when they were shopping and they've got the kids at school they can meet in the Showboat. They didn't want to meet in a pub anymore, because a pub was alcohol, and it wasn't considered the place for women at the time.[24]

Thomas's approach emphasizes the positive value of arcades, their cultural relevance, their social role, and their visibility beyond the seaside and the city, and even their reinforcing of conservative attitudes toward gender. It also chimes with the findings of Mark Griffiths's 1991 paper detailing observations of the social function of the British arcade and the arcade as a space for female socialization in 1988.[25] Thomas was exceptionally aware of the public ambivalence toward amusement arcades, civic concerns about national overexpansion, and increasing rumors of arcade delinquency and criminality. Thomas's view was that arcades needed to become more visible to dispel misunderstandings about their function and purpose. By doing so, he hoped that "perhaps then the silly newspaper rumors about the way the business is carried out will be disproved and we will be accepted as legitimate businesses dealing in adult entertainment."[26]

The brochures that he created were not done to get approval—urban Showboat arcades *did* primarily cater to women and adults exclusively. Unlike seaside arcades, children were barred from urban Showboats arcades, and they included a careful mix of machines and bingo. Showboats did not challenge the character of a city-center retail district because of their design or nature. They offered adult entertainment and a social space outside the male dominion of the pub. Using this approach, Thomas decided that he "could get one in every single town centre,"[27] so he confidently pursued applications in even the most conservative locations. As Thomas put it, "We had the main street in Cambridge, Birmingham, Torquay, we had the main street in any major city that isn't London or a seaside. In all of these we had a *Showboat*."[28]

Alongside arcades and clubs, many people applied for licenses to operate single machines on other premises. The Hull City Council's 1968 application workload offers a sense of the proliferation of arcades and machines: "Sixty applications had been received for permits for premises in the city, including machines to be sited at thirty-four grocery shops, nine newsagents, five off-licenses, two fish and chip shops, two public houses, two butchers' shops, a confectionery shop and a cafe."[29]

Fred Hammond, the Hull Corporation Committee chair, voiced frustration about the council's inability to control arcades and the power of appeal: "I agree with curtailing a lot of this, but we can only object where they do not comply with the law."[30] Feeling trapped by the law and facing increasingly professional applications and appeals, Hull councilor Reverend John Borne blamed the 1960 Gaming Act, calling for Members of Parliament (MPs) to "get this lousy piece of legislation put right."[31]

Undertaxed, with Criminal Overtones

While arcade expansion was an issue, emerging associations with organized crime soon eclipsed this as a concern for the British public. The size of coin-operated machine sales and the profits that machines made were not noticed just by American manufacturers and British entrepreneurs, but by those associated with organized crime from around the world. Gabe Forman, an American citizen, moved to Britain in the early 1960s, selling and operating fruit machines in the West End of London. Colin Mallery, then working for Ruffler & Walker, recalled delivering equipment to Forman:

> I delivered over there one day and I went to unload the van, and he said. No, no, don't you do that. I'll get someone else to do that, and he had a big gold thing on his arm. And he said, "you don't do any of that, my boys will do that." And these blokes come out and unload the van, and he says, "let's go and have a drink" so he gave me half a beer from the office and a white fiver worth £50. I couldn't believe it, I was earning about £30 a week then with overtime.[32]

Evidently, British police became concerned by individuals like Forman, so they took action. Forman was allegedly given 24 hours' notice to leave before being deported from Britain—the assumption in the trade was that he was an American union racketeer. Despite being told these accounts, I could find little evidence to show that Forman was warned, or that he was connected to crime. On January 31, 1961, Forman's company Las Vegas Coin featured prominently in the Amusement Trades Exhibition, held in the Royal Horticultural Hall, London. A *Billboard* magazine feature observed, "Gabe Forman had large crowds around him constantly on his Las Vegas Coin Machinery Imports (Entertainments) Ltd stand where he had a display of new Mills Bell–O–Matic fruits, burglar alarm stands for fruits, and some converted machines."[33] Yet the June 1961 issue of *Cash Box* magazine tells of the "three-pronged dispersal"[34] of Forman's company. While this evidence is perhaps circumstantial, it adds weight to the claims that Forman was impelled to leave Britain very swiftly in early 1961.

While those profiting from the newly legitimized and rapidly expanding coin-machine industry were thrilled by the 1960 Gaming Act, there was growing disquiet elsewhere in political circles. The view of many was that the act had resulted in the "proliferation of gambling establishments all over the country,"[35] and while this referred to clubs, it also implicated arcades. A number of politicians, such as Lord Hawkes, became concerned that the true income of coin-operated machines was being misreported to customs and excise, and furthermore, that declared earnings were undertaxed compared to those of alcohol and tobacco. MPs estimated the value of this undertaxation at "£1,000 million [$1.36 million] a year,"[36] a very welcome contribution to the national purse. In Parliament, MPs questioned whether coin-machine-related taxes could be increased, allowing the industry to "contribute, in larger measure to the national budget, and thus indirectly to the social and perhaps even defence needs of the people?"[37] It became evident that there was a growing appetite to revisit the 1960 Gaming Act and push back against expansion, profit, and perceived criminality.

The One-Armed Bandit Murder

On the morning of January 5, 1967, the club fruit machine money collector Angus Sibbet was discovered shot dead in the back of his Mk. X Jaguar in a quiet Newcastle back street. The crime took place at a pivotal time in the war against 1960s organized crime in Britain. The "one-armed bandit murder," as the case became known, made front-page news. Journalists exposed a lurid tale of racketeering, intimidation, organized crime, and links to the infamous London gangsters Ronnie and Reggie Kray. The subsequent manhunt and trial captivated the public imagination, indelibly connecting coin-machines and organized crime, and the incident was used by those advocating greater control of the coin-op industry.

A London career criminal called Dennis Stafford was charged with Sibbet's murder. The case became important in managing public perceptions of police authority and competency. According to Stafford, who has claimed his innocence ever since, "there were widespread fears that club officials were being corrupted. There were cases of social clubs being burned down and there was lots of wild talk about gang warfare."[38] Stafford's view was that his conviction offered the police and public a quick, reassuring win (Stafford denied playing any part in Sibbet's murder, but he did acknowledge being a known "face" and nuisance that the police wanted to imprison). Stafford's account of his activities in Newcastle, and the dossier he created to show his innocence, shared by Stafford's girlfriend actor Jill Bennett with an aspiring film star, eventually became the inspiration for Ted Lewis's 1970 novel *Jack's Return Home,* later filmed as *Get Carter,*[39] a classic gangster movie starring Michael Caine. Some of that film's most memorable scenes came directly from Stafford's dossier. He explained:

> The Krays were keen to muscle in on the rich pickings that we had discovered in the North-East. They badly wanted to get in on the fruit-machine game and they sent a couple of guys up from London to persuade me to cooperate. These

> jokers came up and knocked on the door of this little bed and breakfast place in Westgate Grove where I was staying. I just got out of bed, picked up a shotgun and went out to deal with them. If I'd hung around to put my clothes on, I might not be here today. They soon got the message and cleared off back down south.[40]

Featuring intimidation, murder, and naked, shotgun-toting gangsters on the streets of Britain, the Sibbet case illustrated that aspects of the coin-operated trade had been infiltrated by organized crime. MPs agreed that the 1960 Gaming Act had caused conditions that criminals exploited, including the clause that defined maximum stakes for club machines but not their maximum prize, which made machines—especially if tampered with to never pay out the large sums they advertised—compelling and lucrative. As a result, the government began systematically reviewing the entire British coin-operated gaming apparatus: gaming machines, AWPs, clubs, bingo halls, arcades, manufacturers, and distributors. Lord Stoneham, the minister of state, argued that it was necessary to look at all aspects of the trade because the "majority of amusement machines now—especially those in pubs and cafes—are nothing more than the familiar 'one-armed bandits' or fruit machines, adapted to give reduced prizes. They are gaming machines."[41]

While there were significant differences in the profits made in arcades and clubs, and they catered to different audiences, Stoneham asserted that the machines were "often identical in design and retailed by the same people."[42] His view was that "the temptations to abuse are similar, in kind, if not in degree,"[43] and in doing so, he implied that the British industry had been infiltrated by both homegrown and foreign organized crime.

Butlins and the Mafia

Not long after the Sibbet case, the largest machine distributor, Phonographic Ruffler & Walker (PRW), suffered a major blow that reinforced negative public attitudes of the trade. In 1968, PRW began to add entertainment companies to their portfolio. It purchased the Dreamland amusement park in Margate, and this investment was so successful, with an estimated 100,000 visitors each week,[44] that PRW looked for further entertainment acquisitions. The Butlins chain of holiday camps rose to prominence during the 1950s with the postwar desire for cheap and cheerful, organized holidays, swiftly becoming a cherished British public institution. Butlins represented an ideal potential acquisition for PRW that would complement its central business of coin-machine distribution and supply. If successful, the purchase would give PRW unmatched vertical integration, from machine importation, distribution, operation, and maintenance to a large population of on-site holidaymakers to play its machines.

In late November 1968, PRW submitted an initial offer to the Butlins board members, commencing the sensitive process of corporate purchase negotiations. However, on December 5, 1968, a week into the negotiation process, the *Daily Mail* newspaper ran a story headlined "West End Mafia Faces an Attack by Sir Rasher,"[45] a reference to Gaming Board member Sir Ranulph Bacon. It said: "Already it is thought that the Mafia has quietly acquired interests in several London casinos . . . It's only a few weeks ago that a Mafia takeover bid to get hold of one of our big entertainments companies made the front-page headlines. Except that only a few people knew about the Mafia part of it."[46]

The insinuation was that PRW was a mob-controlled company, and it was attempting to buy a cherished British public institution. The Butlins purchase promptly collapsed, and eight PRW directors sued the *Daily Mail* for libel. The *Daily Mail* claimed that the Associated Leisure directors, Cyril Shack and Gordon Marks, had become shareholders in the Colony Sporting Club gaming house in Berkeley Square, London, in 1966. At this point, the club was run by the American film star George Raft, famous for his role as Guino Rinaldo in Howard Hawks's 1932 gangster film *Scarface*.

In 1967, in the wake of the Sibbet murder, the Home Office withdrew Raft's British residence permit due to his alleged criminal affiliation. Following this, the Associated Leisure directors sold their interests in the club, not wanting any association with organized crime. The *Daily Mail's* position was that the relationship between PRW and the Mafia had not simply been one of unfortunate coincidental investment—the criminal links were known and beneficial to all involved—and thus the British coin-machine industry had been infiltrated by American organized crime. While the Raft events had taken place the year before, PRW's interest in Butlins had made the company and its associations of public interest, and hence the *Daily Mail* published its piece. While the newspaper article immediately prevented the PRW Butlins purchase from going ahead, the subsequent libel trial against the *Daily Mail* wasn't heard until late June 1971—at which point PRW had been renamed Associated Leisure. The libel trial centered on four points, which were that *PRW* had:

(i) traded with a Mafia controlled company, known as the *Las Vegas Coin Company*;
(ii) involvement with the Mafia in gambling due to investing in the *Colony Club*;
(iii) entered into partnership with the Mafia by dealing in equipment built by the *Bally Manufacturing Corporation, Chicago*;
(iv) joined with the Mafia in an attempt to purchase of *Butlins*.[47]

The authorities were made aware of the accusations, but after the investigation found no evidence of wrongdoing, Associated Leisure's license to trade was not withdrawn. Furthermore, Bally were one of the oldest American coin-machine companies in the industry, and practically every distributor in Britain that sold their machines had business dealings with them. Associated Leisure's relationship was certainly closer with *Bally* than others, as seen by Bill O'Donnell agreeing to build machines specifically for the British market, but this relationship would be expected when dealing with the largest distributor in such a significant market as Britain. Furthermore, Bally had also been subject to a Securities and Exchange Commission investigation in the US and become a public company, making its accounts entirely visible. Evidently, the *Daily Mail's* accusations were flimsy at best. According to the *Daily Mail*'s defending barrister, QC Waterhouse, it was apparent that "the company's dealings with the *Las Vegas Coin Company* was of very minor relevance,"[48] but it is unclear whether this was Gabe Forman's company before he returned to the United States (the name is certainly almost identical). Ultimately, the journalist's claims depended almost wholly upon the two PRW directors' involvement with the Colony Sporting Club and being dealers for the Bally Corporation.

The *Daily Mail* defense appeared more precarious each day of the month-long trial, but then there was a sudden change of fortune when it called an American citizen, Herbert Itken, as a witness. Itken offered the jury a colorful narrative, claiming that he was recruited by the Federal Bureau of Investigation (FBI) to infiltrate American organized crime and had witnessed meetings between the Mafia and PRW directors at the Colony Sporting Club. Despite the absence of evidence to support Itken's claims of engagement with the FBI or Central Intelligence Agency (CIA) in the US, or indeed of any Mafia meetings, the trial was swayed by his account, and the jury sided with the *Daily Mail*. The PRW directors were ordered to pay £60,000 in court fees, and the newspaper's story was deemed a fair report.

Following a dismissed appeal request, one of the founding directors, Cyril Shack, left the coin-operated industry altogether, but he continued to maintain that a miscarriage of justice had occurred. His view was shared in subsequent years by the barrister who had represented the *Daily Mail* in the trial. In his memoirs, Waterhouse explained that in later years, he became aware that “Itkin was never an FBI or CIA agent: he was merely a voluntary informant, and his evidence about reporting matters to the FBI in London was expressly refuted by the FBI representative.”[49] Furthermore, Waterhouse said that in a later American case, Itken had been deemed an unreliable witness when challenged during cross-examination. Whatever the truth of the matter, the Butlins/PRW/Mafia case dealt the entire arcade industry a major blow, and as the newspaper reported its successful defense, concerned *Daily Mail* readers were more certain than ever that the arcades and those in the industry posed a threat to British society. The pushback took shape in the Gaming Act of 1968, a major revision to the 1960 Gaming Act that introduced sweeping new controls. This was then followed by the 1969 budget, which introduced punitive duties on coin-machine operation.

The Gaming Act of 1968 and the Gaming Board

Sir Ranulph Bacon, one of the founding members of the Gaming Board, described the “full-scale Gold Rush” in Britain that emerged in the eight years that followed the 1960 Gaming Act: “with six times as many clubs as in any other country, haphazardly located in industrial, cathedral and university cities, sea-side resorts and country mansions . . . inside a decade, this little island became the gambling centre of the world.”[50]

The Gaming Act of 1968 introduced wide-reaching administrative checks on all aspects of the coin-machine industry, requiring those manufacturing, selling, and operating games to have licenses awarded by the newly formed Gaming Board of Great Britain (henceforth Gaming Board). The Gaming Board was led by Sir Stanley Raymond, former chair of the British Railways Board, and had sweeping powers to search premises, carry out investigations, and scrutinize company accounts on behalf of the Home Secretary. Foreign nationals, or individuals with prior convictions, were ineligible for licenses. The Gaming Act of 1968 forbade profit-sharing between operators and site owners, seen as something exploited by criminals who forced landlords to site machines with very unfavorable share agreements—if they received any return at all. Anyone found trading in machines such as AWPs without a license faced up to two years' imprisonment and an unspecified but unlimited fine, while those found in breach of license terms risked a £400 ($534) penalty and up to three months' imprisonment. Violation resulted in immediate and uncontestable license disqualification and the closure of any attached clubs, arcades, manufacturers, or distributors dependent on that license.

The Gaming Board was recognized as a powerful and active body that closely scrutinized and regulated the industry, rapidly purging it of criminality. Raymond also unveiled a rationalization of the geographic spread of high-stakes club gaming, concentrating it into twenty-eight locations around Britain that could be better observed and policed. Any high-stakes clubs outside these locations were told that their licenses would expire and would not be renewed, and the Gaming Board gradually redrew the map of the most exploitable machines and activities. While some major seaside resorts were included in the high-stakes plan, the locations were generally found in cities where large populations could be entertained and large police forces found. In London, club gaming was restricted to Mayfair and the West End.

The arrival of the Gaming Board made the British coin-operated industry hostile to criminal elements. Purged of its (real or imagined) criminal elements, the industry remained the preserve of showfolk, entertainers and entrepreneurs, but the salacious association of arcades and organized crime persisted in the public imagination. Many who had adhered to the 1960 Gaming Act were frustrated by the sweeping 1968 revisions and its profusion of administrative complications. An editorial in the coin-operated industry newspaper *Coin Slot* described the law as a "sledge-hammer Act for a small nut."[51] The general consensus was captured by the *Coin Slot* editor's comment, "No one would deny if honestly challenged that the casino and 'heavy' gaming establishments were in danger of getting out of hand. But why the hell was it necessary to deal with modest gaming by machines in the same heavy-handed, clodhopping way as the multimillion-pound casino-style operation?"[52]

While the Gaming Act of 1968 was eventually recognized as effective in addressing the criminal exploitation of the 1960 Gaming Act, it was only one part of the pushback. It was accompanied by tax changes that successively constricted the legitimate British arcade industry and forced change upon it.

The 1969 Budget

"It is so bad, even worse than we thought,"[53] was the response of John Singleton, secretary of the ACA, to the unveiling of the 1969 budget, in which the British government radically increased the taxes paid by the arcade industry. The budget introduced license duty on AWP machines, which had become the staple income generator in the British arcade, and this change greatly increased the costs attributed with running an arcade. The 1969 budget stipulated that the first AWP machine on a site incurred an annual duty of £25 ($34), but each subsequent machine was charged a duty of £150 ($204). Following strident lobbying from the ACA trade body, concessions were introduced that halved the duties for seasonal arcades and sites that operated only low-cost penny-play machines, but even so, these taxes were a greater burden than the industry had ever faced.

The 1969 budget went even further: it counted *every coin-slot* on a machine as a separate machine for tax purposes. The logic was that machines with multiple coin-slots could be played by many people simultaneously, multiplying the earnings. However, this failed to acknowledge the realities of public play and machine design—namely, that machines were made with a profusion of coin-slots to increase the sense of choice during play. A single large machine, such as Crompton's twenty-player *Derby Racer*, was now subject to enormous levels of duty. A *Derby Racer* machine, if operated in a seasonal arcade over a typical four-month summer, would be taxed at £1,500 ($2,040) (£75 [$102] for each of the twenty coin-slots), an astonishing figure considering that the machine cost £1,765 ($2,400) to purchase new. In a yearlong arcade, ineligible for the seasonal half-rate concessions, the *Derby Racer* would cost £3,000 ($4,080) in taxes. The centerpiece machine that once cost the same as a three-bedroom house would now cost almost twice that amount per year in tax alone. To make matters worse, duties were collected at the beginning of a trading season to avoid any circumvention of duties, but that was also before the machines could make a single penny. The budget also insisted that the duties applied to any machines in a location, regardless of whether they were operational, or even accessible to the public. If the intention of the 1969 budget was to address a period of perceived undertaxation, bring the expansion of arcades to a halt, and perhaps punish those involved in what was now regarded by some as an unsavory trade, then it was brutally effective.

The 1969 budget appeared to be written specifically with the success of multiplayer coin-operated machines in mind. Its repercussions were disastrous for operators that had invested in big machines during the 1960s, as well as for manufacturers like Cromptons that specialized in their construction. Arcade owners were obligated to change their machine mix to limit exposure to the new taxes, and the once-prestigious multiplayer machines became oppressive burdens overnight. A front-page article in *Coin Slot* captured the industry's fears:

> While a few rich arcade owners and operators may be able to afford the high taxes, the vast majority, average and below average, would be completely crippled by them . . . Many established people in the business would be finished, their staff would be unemployed and the Government would lose revenue from Income Tax, Corporation Tax, Purchase Tax and other taxes to which the industry are contributing on a wide scale.[54]

Following the 1969 budget announcement, operators canceled orders for multiplayer machines, and the entire British coin-operated industry was thrown into disarray. Consequently, seaside operators, especially those based outside the major tourist resorts (which had become so monopolized by corporate purchasing), had little choice but to focus on single-player, low-stakes, low-jackpot AWPs and novelty machines. This accentuated the difference between large and small arcades and larger and smaller resorts. The major resorts became dominated by corporate interests, which could invest in the most impressive and expensive machines, sometimes obtaining a commanding share of all the arcades in a resort and running for an extended season. By contrast, the smaller British resorts were dominated by sanddancers, who entertained fewer tourists in seasonal arcades, and these arcades contained smaller, less expensive machines.

The 1969 budget had a profound impact upon the look and feel of British amusement arcades. It also generated ill will between seaside and city operators; seaside operators felt disproportionately harried by the budget and increasingly let down by their trade organizations.

In response to the situation, the well-known Welsh arcade owner Philip Booth published an open letter in the trade press blaming the 1969 tax changes on the "mushrooming of inland arcades."[55] He accused the trade bodies (ACA and ATA; Amusement Trades Association) of giving seaside arcades poor representation, and he called for the creation of yet another trade organization to exclusively support seaside arcades. In September 1969, the Seasonal Seaside Amusement Operators Association (SSAOA) was formed with a mandate to fight for the needs of "operators of amusement equipment within an area of one mile in depth from the coastline."[56] Members of the SSAOA, mostly comprising small arcade owners who found themselves stuck with worthless multiplayer and high-stakes machines, began a protest campaign of newspaper-friendly bonfires of coin-operated machines (see figure 4.1 and 4.2). Dudley Barron, the owner of Great Yarmouth Paradium, explained the reasons: "We can't afford the tax, we can't sell them [the machines] because no one will buy them, and we can't store them. Hence the bonfire on Yarmouth beach near the Marina. But this is not the end. We shall continue to protest against this crippling tax."[57]

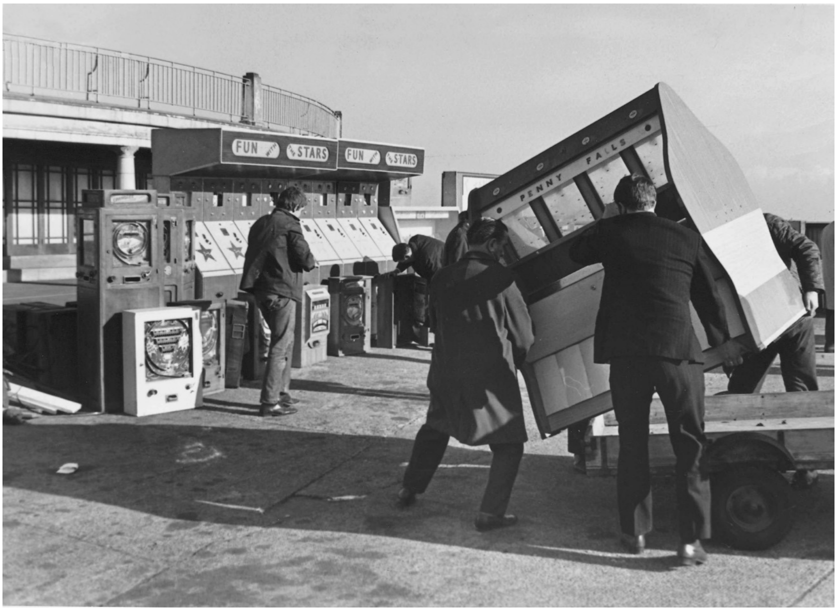


Figure 4.1
Preparing for the "Bonfire of the Machines," Great Yarmouth, 1969. Note the *Fun with the Stars, Penny Falls,* and *Allwin* machines being prepared to be torched. Copyright Archant Norfolk.

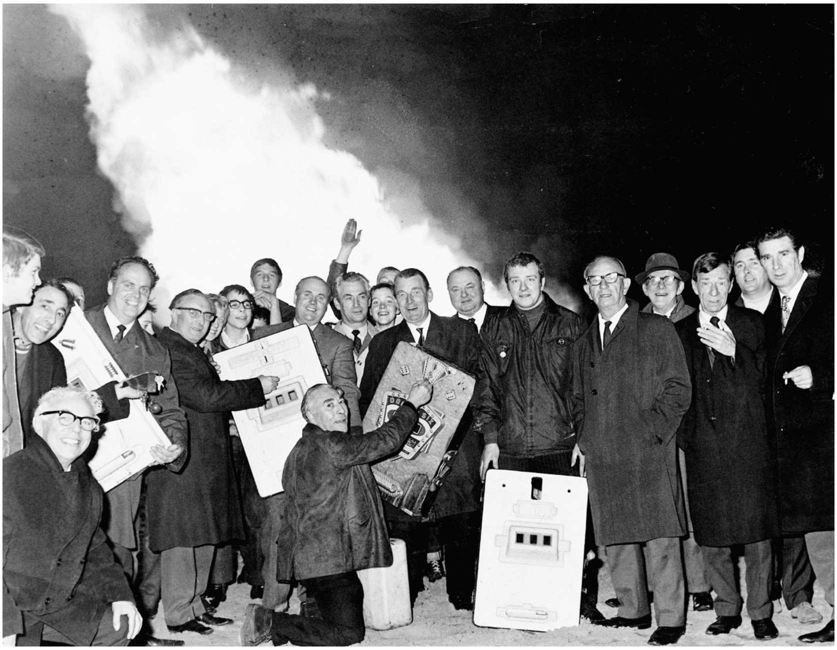


Figure 4.2
The "Bonfire of the Machines," November 5, 1969. Arcade operators protest prohibitive taxes that made multiplayer machines unaffordable by lighting public bonfires. Freddy Bailey is sixth from right behind the burning machine. Copyright Archant Norfolk.

The twenty-player *Derby Racer* became an iconic casualty of the new tax regime. In Swansea, Don McKay, the owner of Tivoli Entertainments, threw a *Derby Racer* from the side of Mumbles pier into the Bristol Channel. McKay explained: "This latest tax has been the death knell for multi-slots. The ways things are going, many of the amusement arcades at the holiday resorts will have to close their doors."[58] McKay's *Derby Racer* protest was replicated by at least one other arcade owner in Margate. The SSAOA coordinated "the firing of the machines"[59] across British seaside resorts on November 5, 1969—Guy Fawkes Night, the British commemoration of a failed attempt to destroy the Houses of Parliament, celebrated with fireworks and bonfires. The Essex SSAOA bonfire organizer Tommy Manning of Clacton-on-Sea explained: "We burnt £2,000 [$2,720] worth of machines because we cannot pay the tax on them. I estimate that around £50,000 [$68,000] worth of equipment will be destroyed. The tax on penny machines will put a very large percentage of the small seaside operators right out of business."[60]

The number of machines burned and the estimated values being suggested once more illustrate the impact of legislative changes on the British arcade industry, negating almost a decade's worth of investment. In one protest in Great Yarmouth led by Dudley Barron, 100 machines were destroyed. In Withernsea, East Yorkshire, nearly 50 automatic machines were burned as a crowd of 200 watched, with the local councilor, Charles Nicholson, ceremonially lighting the pile. Nicholson justified his role in the protest on the basis of the *positive* contribution that arcade revenue made to the resort: "If we lose the amusement arcades, which could happen because of this tax, we could lose a great amount in rates. Amusement caterers are the largest ratepayers we have in the resort."[61] While many had reservations about the sudden growth of arcades, others recognized their economic contribution and the way they made resorts attractive to visitors.

Although the protest bonfires caught the imagination of the regional press, they had no discernible impact upon government policy. Within a few short months, the *Derby Racer* and other multislot machines vanished from the arcades of Britain—up in smoke, plunged into the cold North Sea, or sold for next to nothing to fairground showfolk. According to a presentation made to the Treasury by a joint ACA and ATA delegation in 1970, the impact of the tax was enormous on operators and manufacturers alike: "In the majority of cases duty absorbed between 35 and 75 per cent of the before-tax profits,"[62] and "in many instances the duty payable actually exceeded the profit."[63] Following such a large decline in profits, many arcades closed, and others were "merely struggling on in the hope that their plight can soon be eased."[64]

By April 1971, it had become evident that lobbying by the SSAOA, ATA, and ACA trade bodies had failed to change the government's position on taxation. Concessions were not forthcoming, and in July, the final opportunity for amendments was lost, without MPs even discussing the subject in Parliament. For some operators and manufacturers, the fight to obtain concessions from the Treasury was too slow and ineffectual, and they retired from the trade. John Harris, former chair of the Eastern Section of the Showmen's Guild, put his 780-foot Hunstanton pier up for sale, explaining: "Taxes have put such a burden on caterers all over the country that we are no longer working for ourselves."[65]

The taxes also damaged manufacturers. In March 1972, Mayfield Electronics, the company run by Eddie Carter and with whom Michael Green had developed the *Penny Lanes* and *Indianapolis* machines, went into liquidation, with seventy redundancies.[66] When the 1969 legislation was announced, Mayfield Electronics employed 150 people, but it immediately reduced staffing levels and focused on producing amusement-only machines. The market for pure amusements was not sufficient, and Mayfield were left with a large stock of multiplayers and spares that they could not sell. The following month, Jim Crompton told a similar story of catastrophic market decline: "The effect of the duty we have suffered over the past two years has been a drop in sales of machines to the home market of 95 per cent. We just haven't developed any dutiable pay-out machines at all. I can't see how coastal sites can continue in business and pay this duty."[67]

While the survival of operators required prudent investment, manufacturers had no choice but to generate income, and with the inert British market, looked to international export. Bell-Fruit, the largest all-British manufacturer of AWP machines, announced that in 1970–1971, exports made up the majority of its £350,000 profits, and the British AWP market had shrunk to a quarter of what it was in 1968.[68] A Bell-Fruit spokesperson explained, "The Gaming Act can be fairly and squarely blamed for the dislocation in manufacturing fruit machines and the heavy redundancies experienced by many in the business. The Act effectively killed the jack-pot for everyone, including the playing public, and equally effectively retained it for the Government."[69] By January 1972, faced with a depressed home market for AWP sales, Bell-Fruit expanded its operating business by purchasing Mecca Leisure Services for £1.7 billion.[70] As a result, Bell-Fruit became the largest operators of AWP machines in Britain as well as being the largest manufacturer. The majority of sites purchased in the Mecca Leisure Services deal were machines in pubs, a sector that Bell-Fruit had pioneered. By purchasing the operating interests, Bell-Fruit created vertical integration, ensuring that there would be a large British market for its factory output and it would receive a significant proportion of the AWP investment in Britain.

Moral Hazard

The pushback against arcades and clubs grew, chiming in with the historic opposition that the fairground had faced. During this period, concerns changed to the alleged risks of gambling, and in historical terms, the "moral hazard" it produced. Civic and religious groups began to lobby politicians, demanding the ability to limit arcade expansion and prevent children from entering arcades. They often supported their complaints by reports that emphasized moral hazard. For example, in March 1970, the Manchester North Rotary Club published a report claiming that the atmosphere caused by low-stakes AWP gaming as occurred in an "amusement arcade is not in the best interests of that child or its later development,"[71] and penny machines were a "temptation" to minors. These reports did not connect the arcade owners to a fairground tradition, nor did they acknowledge their often-generous civic contribution, but they did speak abstractly of the threat posed to children. The reports underplayed the fact that many arcade owners had voluntarily adopted policies not to admit unaccompanied children, as was the industry trade bodies' official position for all inland arcades. Seaside arcades were omitted from this policy because they served a holidaymaking clientele and offered a family-friendly amusement mix, designed in part for children.

The Showboat arcades banned children, displaying a "big policy notice visible in the arcade entrance,"[72] and many other arcade owners recognized the logic of the policy. Despite the wide adoption of these policies, the absence of any legal obligation to ban children was perceived by many as a legislative failure, exploitable by disreputable arcade owners. This concern gained momentum through the early 1970s. At the 1973 Welfare Officers' Association national assembly, its members voiced similar concerns about arcades and children. The association claimed that arcades were a cause of child truancy, they were "magnets to teenage delinquents," and child gambling levels constituted a "social menace."[73] The Welfare Officers' Association president Jack Clayton stated that "growth of these amusement parlours, full of one-armed bandits and other small-change gambling toys is largely responsible for this. . . . These places cause trouble on two counts—because to go there a boy often has to play truant and to afford the machines he usually has to steal or spend his dinner money."[74]

At the end of 1974, the Churches' Council on Gambling commissioned the former civil servant Arthur Taylor to produce yet another report on the relationship between childhood delinquency and arcades.[75] Unexpectedly, for research commissioned by a partisan church group, the report failed to establish any substantive link between arcades and delinquency, which many assumed might exist. While the report's findings were interestingly unexpected, the data also offered a glimpse at the size and shape of an industry in flux. Taylor estimated: "England and Wales had only 350 to 400 arcades and 250 to 300 prize Bingo stalls or halls. On top of that, there were probably 10,000 premises like cafes—but excluding pubs and clubs—where machines were installed."[76] In just over five years, changes made to the Gaming Act of 1968 and the ensuing taxation had radically contracted the industry. Taylor's paper was eminently even-handed in its approach, recognizing that the concerns that people felt about children and arcades were well intended, if not largely baseless, explaining that evidence did not support the argument that arcades constituted a moral hazard: "more convincing and extensive evidence would need to be found before this problem of juvenile delinquency could be presented as, in itself, a sufficient reason for further tightening the restrictions on amusement arcades."[77]

Taylor found no evidence that arcades were a significant cause of truancy, nor that children got into bad company in arcades. Indeed, while he acknowledged the potential risk of individual cases of theft by youngsters wanting money to play on machines, he did not find this occurring in practice. Taylor's summation to the Churches' Council on Gambling was that existing legislation was robust and effective, despite being voluntary, and in his view, "the amusement arcade might be a tiger, but it seems to be pretty well caged."[78]

Johnny Go Home, Playland, and the Rise of the AAAG

On July 22, 1975, the ITV channel broadcast *Johnny Go Home*,[79] a film telling the tragic story of runaway children attracted to Piccadilly Circus in London's West End and the pedophiles who physically and sexually abused them. The documentary revolved around the murder of one former runaway, Billy Two Tone, and the gradual exposure of a child abuse ring centered around a homeless hostel for runaways and its predatory principal, Roger Gleaves. Ten million people watched the shocking documentary and recognized Piccadilly's Playland arcade. Before that, *The Dilly Boys*, a 1973 book by Mervyn Harris detailing male prostitution in the West End of London, had explained that the arcades in Piccadilly had replaced other public locations as a convenient rendezvous, "a meeting ground for male and female prostitutes and other nefarious activities."[80] The noise and busyness of the arcade, its free entry, long opening hours, and no doubt the pleasures of the gaming all made arcades attractive places to loiter.

The adoption of the arcade as a rendezvous was not unique or new, and police had prosecuted prostitution and solicitation in many venues in the area in the past, but *Johnny Go Home* brought the issue into sharp relief and played into the hands of those holding a negative view of arcades. The facts that the arcades played no part in the crimes, and that the voluntary policies of the British Amusement Catering Trade Association (BACTA) had been adhered to, were irrelevant, and there was an immediate public outcry calling for the closure of the arcades in and around Piccadilly. The view of the concerned citizens of Westminster was that *Johnny Go Home* amply demonstrated the inadequacy of arcade regulations and their moral threat. While criminality may have been removed from the coin-machine industry by the Gaming Act of 1968 and the Gaming Board, it was the spaces themselves, the addictive nature of the games, and the unsavory characters who hung out there that were the concerns of the mid-1970s.

Despite extraordinary public pressure to revoke Playland's license, the Westminster City Council's planning committee was restricted by the laws that governed arcade applications, so it could do nothing because Playland had not operated unlawfully. The council eventually attempted to close Playland, but this was overturned on appeal shortly afterward. For many, understandably incensed by the events shown in *Johnny Go Home*, the council's inability to close the Playland arcade was an affront, reigniting tensions around council impotence over planning control. William Molloy, the Labour MP for Ealing North, spoke of the need for "vigilant supervision of these places to ensure that such arcades cannot become the haunts for these evil vice dealers,"[81] and similar sentiments were expressed in many articles in the mainstream press. Alan Willis, head of the (now merged) BACTA, responded: "It is wrong, therefore to single out *Playland* and terribly unjust to tar the rest of the West End arcades or any other arcades with the same brush."[82] However, despite these protestations, the situation reaffirmed the link between games, crime, and moral decline, and arcades were regarded as unsavory—even dangerous—places, echoing the criticisms that ended St. Bartholomew's Fair some 150 years earlier.

The Playland case reinforced public negativity toward arcades, and this became gradually coordinated, articulate, and effective. The Westminster councilor Robert Davis became the spokesperson and leader for the concerned, eventually forming the Amusement Arcades Action Group (AAAG), a powerful lobbying body. The AAAG did not become truly active until the early 1980s, but in the mid-to-late 1970s, they supported press articles that stoked public moral indignation. The treatment of arcade owners in the mid-to-late 1970s by the regional and national press reinforced long-held views of persecution and prejudice—similar to the Showmen Guild's "defensive war" some sixty years before.[83] For example, on May 28, 1976, the *London Evening News* ran a story about the Crystal Room and Golden Goose West End arcades, run by the Trusthouse Forte subsidiary London Coin, in which a journalist approached young players and asked them about unsavory behavior. David Rogers, the manager of the arcades and the director of London Coin, was so incensed by the journalist's actions that he wrote a letter to the paper that was reproduced in the trade press:

> [Y]our article on London arcades is riddled with lies. If you had tried to question young men in the Crystal Room or the Golden Goose as you say, you would have been asked to leave. . . . Have you ever written about how clean the arcades are or how we have fitted glass and open fronts so that anyone can see in? Or that there are no nooks and crannies inside? Have you said anything about how well-lit they are?[84]

The furious Rogers even used accusations of chauvinism by women's rights groups in the 1970s to discredit the *London Evening News* claims, explaining that "women are not allowed into our Old Compton Street premises after 10pm, and before that time only if accompanied by men. Why didn't you write about the two recent occasions that women's lib demonstrations took place outside the arcade for that very reason?"[85]

By the mid-1970s ,the British arcade was attacked on all fronts by taxation, invasive administration, and, like fairgrounds before them, by concerned moral champions. Following this period, the coin-operated and arcade industry became deeply suspicious of journalists (and to some degree academics), on the basis that reports and interviews were often distorted or misrepresented to the detriment of the arcades in the public eye. But paradoxically, like the fairgrounds that preceded them, there was substantial public desire for seaside and inland arcades despite the criticisms of moral reformists. Furthermore, as appetites for international travel grew throughout the late 1970s, the British seaside resort became increasingly associated with poorer holidaymakers, as those who could afford to travel abroad often did. As this happened, the arcade took on a veneer of unsophistication.

During the 1970s, however, the major British seaside resorts such as Margate and Blackpool, where the arcades lacked quite the same insidious connotations as they were tarnished by in the city, saw enormous visitor numbers, paving the way for expansion and development.

The anti-arcade pushback was not as compressed or as coherent as presented here (it occurred over an eight-year period), but it can be seen as the mirror image of the expansionism felt in the early 1960s. It showed a reaction to concerns over criminality and moral hazard attached to the coin-op industry that were imagined, exaggerated, and substantive and reconnected with deep-seated discourses that framed public play, gambling, and those involved with their operation as unsavory and criminal. We should remember that it was not the sanddancing arcade operators or the coin-machine manufacturers that created the exploitable conditions of the 1960 Gaming Act, but the government itself. But the pushback disproportionately penalized the showfolk turned arcade operators.

Big businesses—Forte, Rank, and to a lesser extent PRW/Associated Leisure—had sufficient capital reserves to shoulder the duties and taxes of this period, but smaller companies were forced to close. In the case of arcades, this likely led to premises being bought by the large corporations at close-out rates (in fact, the early 1970s led to another wave of corporate expansion and consolidation in major resorts). We see the power of legislation writ large in the pushback, and as the smaller arcades and manufacturers are forced out of business, the British amusement arcade changed shape once again. And in the early 1970s, this was caused by the arrival of videogames.

5 Pings, Pongs, and Pioneers

Just before Easter 1972, Mike Green, now one of Associated Leisure's most recognizable and well-regarded salesmen, received a call from Sega owner Martin Bromley, inviting him to discuss a proposition at the Hilton Hotel, Park Lane, London. At the meeting, Bromley announced his intention to buy Jimmy Horrocks's commanding stake in Alca Electronics, the manufacturer that Green had been working with for nearly five years.[1] However, as Green recalled, Bromley insisted that he "would only buy it if I would leave London and become joint Managing Director with Geoff [Ellis]."[2] In June 1969, Gulf+Western had bought Bromley and Dick Stewart's entire stake in Sega Enterprises in a deal worth almost $10 million,[3] and Bromley had retained the Club Specialty holding company. Now some two years later, Britain-based, affluent, and keen to reenter the industry, Bromley had identified Alca as a prime investment, but only with Green at the helm. Green accepted the offer and went from salesman to managing director, taking control of Alca with the financial backing of one of the most successful international coin-machine entrepreneurs. In June 1972. it was announced in the industry press that Horrocks's stake in Alca had been sold to the Panama-based Club Specialty.[4]

Sega originally began as a company siting coin-operated machines in American military bases during World War II. After the Johnson Act of 1951 had made transportation of gaming machines across state lines and their siting in bases on American soil illegal, Sega relocated to Japan. Club Specialty had been established in Panama shortly afterward to coordinate Sega's global finance and distribution. Throughout the 1950s and early 1960s, Sega continued to operate gaming machines in American military bases, via agents who were sometimes accused of using aggressive and unlawful approaches. According to a US government report, "Bromley representatives were alleged to have smuggled coin-operated machines into foreign countries using counterfeit importation documents, shipped their equipment aboard Navy or Navy-chartered vessels—and Air Force planes, paid bribes and kickbacks to military personnel, and leased, rather than sold, their machines to open messes and clubs."[5] As a result of these violations, the US navy permanently banned Bromley from doing business on Philippine naval bases in 1960.[6]

Bromley relocated to Britain, and in June 1968 applied for British Amusement Catering Trade Association (BACTA) membership under the name "Club Specialty Overseas Inc."[7] Following his purchase of Alca, Bromley explained that his contribution would be an "injection of capital into the firm,"[8] and that the Sega owner was "now looking to *Alca* to come up with new and exciting products."[9] A month after the purchase, Green's appointment as joint managing director alongside Ellis was confirmed, and with the added investment, the company announced an ambitious expansion plan. Alca increased its staff from 45 to 100, and from their base in Oldham, Greater Manchester, it challenged the London-centric nature of the British coin-op distribution business.[10]

The Manchester-based Ellis's view was that arcade operators in the north of England had been "very poorly catered for,"[11] criticizing the situation where buyers had to travel 200 miles to London to test and collect machines or order them blind. Alca challenged this by setting up a showroom in Oldham and building machines for everyone in the industry: the "single site operator, the showman, arcade proprietor and even amusement parks." With Bromley's significant financial support and Green's charismatic negotiating skills, Alca soon obtained distribution rights for many major manufacturers, including Ace, Brenco, Cromptons, Streets, Whittaker, Mayfair, Jupiter, and Sega. Alca continued to manufacture the electromechanical games on which it had built its reputation, but it was also willing to expand into new game types, even if this meant copying the innovations of others. And through this, Alca became the first company to build videogames in Britain, soon saturating the market before Atari's machines had made any impact.

The First British Videogame

While Nolan Bushnell's/Nutting Associates' 1971 *Computer Space* is considered the first arcade videogame, neither it nor *Pong*, released the following year, made any great impact on the British market. However, by March

1973, less than six months after *Pong*'s unveiling and long before the game was officially released in Britain, Alca were already selling its own version, *Ping-Pong,* by the thousands. The story of how Alca beat Atari, and indeed any other manufacturer, to the British videogame market highlights the small and globally connected nature of the coin-machine industry even by the early 1970s. Alca's managing director, Michael Green, first met Bushnell, at that point working for Nutting Associates, at the AMOA trade show in October 1971, where they spoke about his videogame. At this point, Bushnell was promoting *Computer Space*, and Green was impressed with the machine's distinctive curved fiberglass body, even if the audience found the game too complicated. When Bushnell unveiled *Pong* at AMOA the next year, in October 1972, the industry was ready. American manufacturers showed considerable interest in *Pong*, and Green was told by one of his contacts, Sam Stern (of *Stern Pinball*), "that all the American factories were going to build similar games."[12] Based on the idea that as a technically advanced novelty machine, *Pong* was precisely the kind of machine that Alca specialized in replicating, Stern arranged a sample *Pong* printed circuit board (PCB) to be delivered to Alca's Oldham premises. The PCB arrived in time for the Northern Amusement Equipment and Coin-Operated Machine Exhibition, held in Blackpool, in late February 1973. The Alca team rapidly built a cabinet for the machine so that they could test *Pong* with visitors to the Blackpool show. As Green explained the situation: "Alca had two stands at the show, and when we unpacked the machine we decided to put it on our second stand, which was not in quite as good a position as our main stand. Throughout the show we were snowed under with enquiries."[13]

While the interest was excellent, indicating *Pong*'s commercial potential, Alca had no license agreement with Bushnell to manufacture or distribute the game. Conscious of this and the many American manufacturers poised to make their own unlicensed *Pong*-type machines, Green took a bold step. Immediately after the Blackpool show, he booked a ticket to the US to visit the Boston-based *Pong* board manufacturers, having been given a contact by Stern. Green flew out that night; had a meeting with the manufacturers the following morning, where he negotiated the purchase of 300 *Pong* boards at a cost of $150 (£110 GBP) each; and then boarded the afternoon flight home. In forty-eight hours, Green had spent $45,000 (£33,100 GBP) to secure *Pong* and changed the course of videogame release in Britain. The pace, scale, and urgency of the deal was astounding, and Green had some understandable reservations: “It was all a financial risk. Coming back on the plane I thought I’d made a terrible mistake, lost all that money, but then of course it turned out to be one of my better decisions over the years.”[14]

Green stressed to me that at this point in the early 1970s, “nothing was copyrighted. Intellectual property, that all came later on.”[15] However, while this may have been generally the case, Midway’s *Winner*, the first *Pong*-type machine mentioned in the British arcade trade press, was built under license “and with the cooperation of *Atari, Inc.*, of Santa Clara, California, (Syzygy Engineered), the inventor and developer of the game.”[16] In the case of Green’s purchase, it appears that the deal was with the PCB manufacturer without Atari’s knowledge. Nevertheless, copying was common within the amusements industry, and it was certainly the case that copyright and intellectual property law was not stringently enforced in the industry at this point. On his return to Oldham, Geoff Ellis designed a cabinet for Alca’s new machine. They named it *Ping-Pong* on account of “pong” being a British colloquialism for a bad smell—something that neither Green nor Ellis thought gave the right impression for a high-tech game containing a $150 PCB. Monitors were not readily available in Britain at the time, so Alca approached a Manchester Ferguson Electronics dealer to bulk-purchase television sets.[17] The only televisions they could obtain in sufficient quantities were slightly larger than the interior of the *Ping-Pong* cabinet, and Alca staff simply sawed the protruding tuner from their sides (the removed parts were then sold to a Manchester electrical spares company for £10 each). Between April and September 1973, Alca built 3,000 *Ping-Pong* machines,[18] and during this time, Alca became Ferguson Electronics’ largest customer in Britain (see figures 5.1 and 5.2). Despite this success, Alca’s expertise in electromechanical games did not translate to the transistor-based logic that *Pong* was built from. Alca had simply purchased the boards as components from the manufacturer and assembled the machine as it would any of its games; however, it was evident that this utterly new technology confounded both manufacturers and operators alike, and few knew much more about *Ping-Pong* in Britain than that customers enjoyed playing it.

Unfamiliar Technology and Competition

Alca’s *Ping-Pong* hit the British market in April 1973, less than six months after Bushnell first showed *Pong* in the US. The first 100 *Ping-Pong* machines

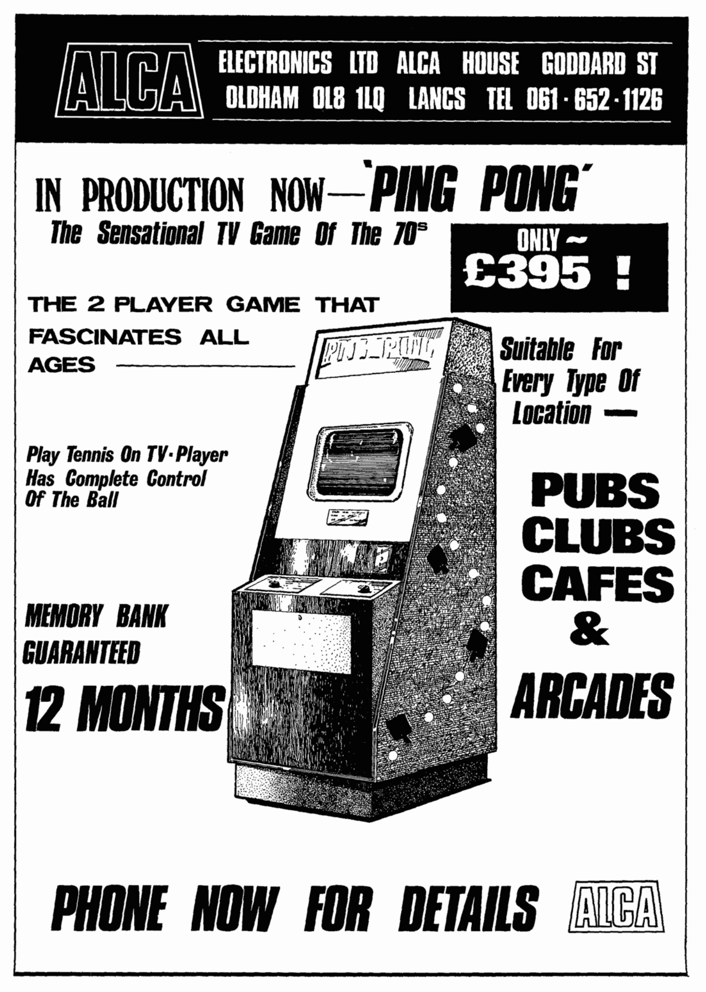


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Figure 5.1
Alca *Ping-Pong* ad from *Coin Slot* newspaper. Coin Slot International.

sold immediately, but they were temperamental. The machine lacked adequate electromagnetic shielding, and radiofrequency interference caused unpredictable errors. In one pub, a *Ping-Pong* machine apparently reset each time the electrical beer pumps were turned on, while there were rumors that passing police cars had the same effect. Whatever the reason, these faults were considered idiosyncrasies of a new technology, and while frustrating to operators, they were overlooked, while *Ping-Pong* made excellent money.

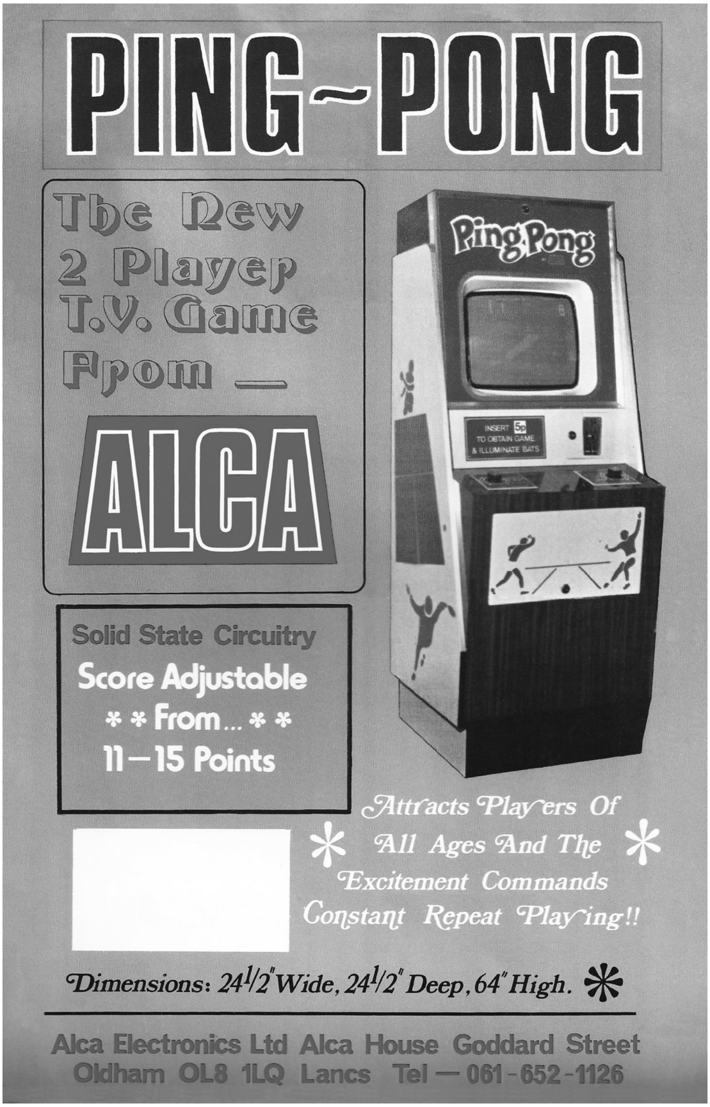

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Figure 5.2
Alca *Ping-Pong* advertising flyer—the first British videogame. Nic Costa Archive, CCCU.

Later, *Ping-Pong* machines incorporated shielding, and the machine's manufacturing quality improved as the company became more experienced with the components. Nevertheless, Alca were only *assembling* machines. When a PCB developed faults, Alca engineers rarely had sufficient expertise to troubleshoot and repair the parts; instead, they swapped a faulty board for a functioning one. This was such an issue that early Alca *Ping-Pong* ads announced, "memory bank guaranteed 12 months." The failure rates were high, but *Ping-Pong* was so profitable that it became common to buy a spare PCB alongside the machine to keep it running when one failed. Colin Mallery explained that the reliability of the new technology was an obstacle for adoption: "People were a bit worried about maintaining *Pong* actually, they didn't have the engineers. The industry was used to flicking a ball."[19]

Alca was the first to build *Ping-Pong* in Britain, but the American manufacturers that Sam Stern had alerted Green to were soon to enter the British market with licensed and unlicensed machines. Midway's *Winner* was site-tested by Associated Leisure in a North London pub, reporting fantastic popularity, with first-week takings exceeding £40 for a 5p game.[20] Midway later released a larger 10p model called *Paddle Ball*. Associated Leisure, confident with the success of the machine, installed one in each of its arcades. In comparison to Alca's British-built machines and Williams' and Allied's imports, Atari UK was glacially slow to enter the British market. This was not helped by Atari's indecision about *Pong*'s name in Britain. Atari's *Pong* became *Ping*[21] (on account of the same concerns that Green and Ellis shared about the name), and then the name became *Wimbledon*.[22] By the time the company settled on a name and began building sufficient machines to enter the British market, much of the game's novelty had worn off. Put simply, Atari didn't regard the British or European market as especially significant, and the appointment of a British distribution rights to Atari UK was poorly handled.

Atari's slowness to enter the British market was a misstep. Seeing unmet demand for the videogame, other companies scrambled to fill the gap and made considerable profit, while others fared less well. Coin Operated Parts Services (COPS), of Stockport, Greater Manchester, invested £100,000 in a "make or break" effort to produce its *Tele-Tennis Pong* clone.[23] They produced 100 machines a week through July 1973, rising to 400 in August, but by then, there were signs that demand was cooling. Sales projections for *Pong*-type games were frequently overstated, as seen with COPS managing director Mike Hurst's breathless assessment of the size of the British market: "We are not just talking about pubs and arcades and clubs, but shops, department stores, cafes, launderettes, fish and chip shops. There will be a minimum of 50,000 of these machines sold in this country over the next 12 months and that is a conservative estimate."[24]

As manufacturers considered the potential of *Pong*-type videogames, the supply of imported electrical parts dwindled and components became the limiting production factor. Companies responded by bulk-purchasing and hoarding components well into the decline of the *Pong*-type craze; for example, COPS bought 2,000 twenty-inch televisions for their videogame output and companies that were late to the market risked warehouses full of surplus stock as orders and availability of critical components dried up.[25] Similar to Alca's *Ping-Pong*, Atari's *Wimbledon* was built and assembled in Britain using PCBs imported from the US, but Atari UK only began production of the machine in early August 1973.[26] This was four months after Alca's machine had first gone on sale, and about a month before demand for *Pong*-style games in Britain entirely collapsed. In less than a year, the videogame craze had come and gone in Britain. The machines continued to be operated and played, and there was demand for replacement boards and a little demand for the hockey and American football games that followed, but demand for machines and PCBs had mostly been sated. What was needed was service and repair expertise.

Colin Mallery explained that "there was a desire for *Pong*, but it was tentative. I remember my boss, Bill Ruffler saying, "it's never going to last," and he wasn't far wrong."[27] Alca's *Ping-Pong* continued to perform well throughout 1973, and the company introduced a *Ping-Pong Mk. II* machine that adopted the 5p/10p play feature seen on Atari's *Wimbledon*. By the end of November 1973, Alca produced its 2,500th and final *Ping-Pong Mk. I* and switched to the *Mk. II* version entirely.[28] Alca presented a positive spin in the trade press, with Ellis reassuring potential buyers that *Ping-Pong* was being sold in "smaller numbers, but to more people."[29] Green later described the eventual end of *Ping-Pong* sales: "The end came with no warning in September and it was like switching off a light. Luckily for us we had seen a decline in demand starting in July that year and cut back our numbers so we did not get hurt when it was all over."[30]

But Alca began to more forcefully promote the electromechanical games like *Space Gunner* that had been so successful before *Pong*. Alca produced a *Table Tennis* game, "housed in a basketball-type cabinet with a Perspex dome,"[31] and a *Puppet Show* featuring animatronic characters did well in the UK and US. In comparison, *Tennis Champ* did not sell well, and Alca ceased videogame manufacture altogether in March 1974. According to Green, "after that the second generation of games were mostly American football–based or ice hockey–based that didn't catch on here, and that was the end of video in the UK for about four years."[32]

Despite Atari and others producing new releases, it was American pool that replaced videogames in the arcades and public imagination in the mid-1970s. By late 1974, pool tables had become profitable product lines for Alca, who introduced its *Princess* and larger *Consort* models. These became the best-selling pool tables in Britain. Pool halls became popular and were not subject to quite the same public antipathy as arcades. Many arcades also made space for pool tables, and from the mid-1970s onward, it was common to find a pool table alongside fruit machines, videogames, and amusements. By 1976, Alca and Hazel Grove Music, a medium-sized, Cheshire-based operating company, had become the dominant forces in pool in Britain.

In December 1974, Atari UK's complacency in joining the British market became their undoing, and Atari UK of Castle Donington, Leicestershire, called in the receivers.[33] Atari UK's failure is a testament to the importance of knowing the market and getting products into it quickly. Already by 1974, fewer than two years after the first arcade videogame was unveiled, it was apparent how globally connected the coin-operated industry was (at least in terms of Anglophone countries), with American industry personalities sharing business intelligence and manufacturing ideas. Yet while that was the end for Atari UK, several companies approached Atari, keen to become distributors of their product in Britain. Ruffler & Deith and International Amusement of London acted as Atari's British distributors immediately following Atari UK's collapse. In 1976, the British rights for Atari distribution were formally awarded to the Cherry Group, a Swedish consortium (called AB Restaurang Rouletter in its home country) that had successfully acted as Atari's sole distributor in Scandinavia for several years. Cherry Group had begun operating fruit machines, including those supplied by the British distributor PRW, on passenger ships sailing from Norway after laws were liberalized in 1970. Following the Atari distribution award, the Cherry Group purchased International Amusement and made it its London branch. They renamed the new company Cherry Leisure and appointed International Amusement's managing director, Vic Leslie, to lead it. Leslie would carefully oversee Cherry Leisure's British offices and Atari's videogame rollouts in subsequent years and go on to be a well-regarded and influential member of the British coin-operated industry.

In 1980, Leslie was appointed as head of Sega Enterprises Europe. While the Willesden, central London–based Cherry Leisure focused primarily on arcade videogames, it also had a consumer division that oversaw the European distribution of the Atari VCS home console. Working out of the same London offices, there was little distinction between the early arcade and home console videogame industry.

Spinning Disks and Fixing *Pong*

John Richards was a London-based disk jockey who worked at a nightclub owned by Fred Walker (of Ruffler & Walker) and entertained at many coin-operated industry events during the early 1970s.[34] He had been interested in engineering while at school and enrolled in a college diploma in mechanical, civil, and electrical engineering. Finding the slow pace of study frustrating, Richards took a job at the distributor Coin Concessions, but one of his first jobs was driving a van full of pinball machines from London to Leeds in terrifyingly thick fog. He was worried that an obstacle would loom out of the mire, causing a crash, and drove so slowly that the delivery took too long (he was fired soon after). Unsure of what to do, Richards combined his love of music, electronics, and nightlife, building his own amplifiers, equalizers, and hardware and using them as a disk jockey.

Richards was a regular visitor to the Top Rank Bowling center at Streatham Hill, London, then the largest bowling center in Europe with two floors of lanes. Top Rank Bowling also contained many coin-operated machines, including *Pong*-type machines, most using very similar—equally temperamental—hardware. Meeting former colleagues from Coin Concessions, Richards was told about a box full of faulty *Pong*-type game boards that nobody knew how to diagnose or repair. Coin Concessions were the sole UK distributors for Chicago Coin's *TV Ping-Pong*, and many of the boards would have been returns that had failed while under warranty. Richards recognized the absurdity of the situation: scores of valuable PCBs that were now worthless because nobody understood how they worked or how to fix them. He took the broken boards and set about making sense of this mysterious technology. Richards explained, "because I was taught to think, I could figure out how the boards worked and how to repair them."[35]

Despite the commercial success of Alca's machines, Richards had an especially dim view of their construction. "Out of all of the machines, *Alca* was the worst manufacturer, the cabinets and fixings weren't as good as the competitors and the boards were poor quality."[36] He said that this poor-quality construction and manufacturers' unfamiliarity with electronics was the cause of many board failures: "The mains electricity [240 volts] current went straight onto the game board, and as people played the game the control knobs would work loose and the machine would [short], blowing a component in the process."[37] Richards figured out that a single failed gate component was the primary issue in the majority of the failed PCBs, and he began offering a repair service at £15 per PCB. The fix took less than five minutes to complete. Richards also began buying failed videogame boards in bulk from operators whenever possible; he'd "throw them in a bath and scrub them clean, make a repair and then sell them."[38]

Despite the decrease in demand for new videogames, operators who had bought a machine were naturally keen to keep them running; word of Richards's skills spread, and his services became in considerable demand. As Richards was one of the few known board repairers in Britain, arcade staff were prepared to travel the length and breadth of the country to Surbiton, just outside London, to secure his services. According to Richards, they'd often travel to Surbiton overnight and be waiting to have a repair done first thing in the morning. Always with a sense of antiauthoritarian cool, Richards even made the repair process a spectacle: "I had a cardboard box full of bank notes, £1000 in a box while I'd work on the boards. It became my thing, I'd throw the money in the box, they'd pass me the board and wait. I'd fix the board. It was very lucrative."[39] This was Richards's successful entry into the British coin-machine industry, and he came to play an important role in the late 1970s and 1980s.

The Second Wave of Vids

Following the decline of interest in the first wave of *Pong*-style videogames in late 1973, several companies, including the US-based Atari and Exidy, released videogames in Britain, but they did not sell in great numbers. The first signs of a resurgence of interest in videogames came with Atari's *Breakout*, first unveiled to the British industry in October 1976. *Breakout*, described in the trade press as "a simple game of immense appeal in which a player drives a ball against a wall with a bat,"[40] performed well, and arcades began buying the game in greater numbers than previous machines. *Breakout* marked the gradual return of the videogame in Britain.

By September 1977, Richards had formed a company called Competitive Video that offered PCB repairs, but also conversion kits for older, *Pong*-type games that turned them into *Breakthrough*, a horizontal *Breakout* clone that he had designed (see figure 5.3). Operators with tired *Pong*-type machines were happy to pay for the conversions and update their machines. The *Pong*-type machines and other videogames at this point did not use microprocessors, but rather transistor-transistor-logic (TTL), where carefully designed patterns of simple transistors enabled logic states. Richards had obtained other manufacturers' TTL PCBs, carefully mapped out their logical structure on paper, and devised ways to alter the boards and change the games. In doing so, he was one of the first British videogame modders. As his expertise grew, Richards produced entirely new boards based on TTL logic that copied or emulated existing popular games, as was the case with his *Breakthrough* game, which rotated *Breakout* onto a horizontal orientation—and *Enemy Below,* which closely resembles Gremlin's *Depthcharge*. These were sold as complete conversion kits, including the board, control panel, components, and instructions, which could be installed in any videogame cabinet with a functional monitor.

Electrocoin: Two Men and a Plan

In April 1976, shortly before the release of *Breakout*, two men, John Stergides and John Collinson, formed Electrocoin, a company that came to dominate arcade videogames in Britain in later years.[41] Collinson, nearly ten years older than Stergides, had worked in the Royal Air Force until 1963, when he became an engineer in arcades in Porthcawl, South Wales, working for the well-known showman Pat Evans. Collinson's job was to ensure that the various machines in Evans's Coney Beach Amusement Park and Trecco Bay Holiday Camp were in good order, and he developed a sound understanding of a wide range of machines; both Amusements with Prizes (AWPs) and novelties.[42] Collinson also ran a company selling amusement machines and became well versed in repairing, maintaining, and modifying them. In the early 1970s, Collinson left South Wales to work as a freelance machine engineer in London arcades, and while there, he met his future business partner, John Stergides.

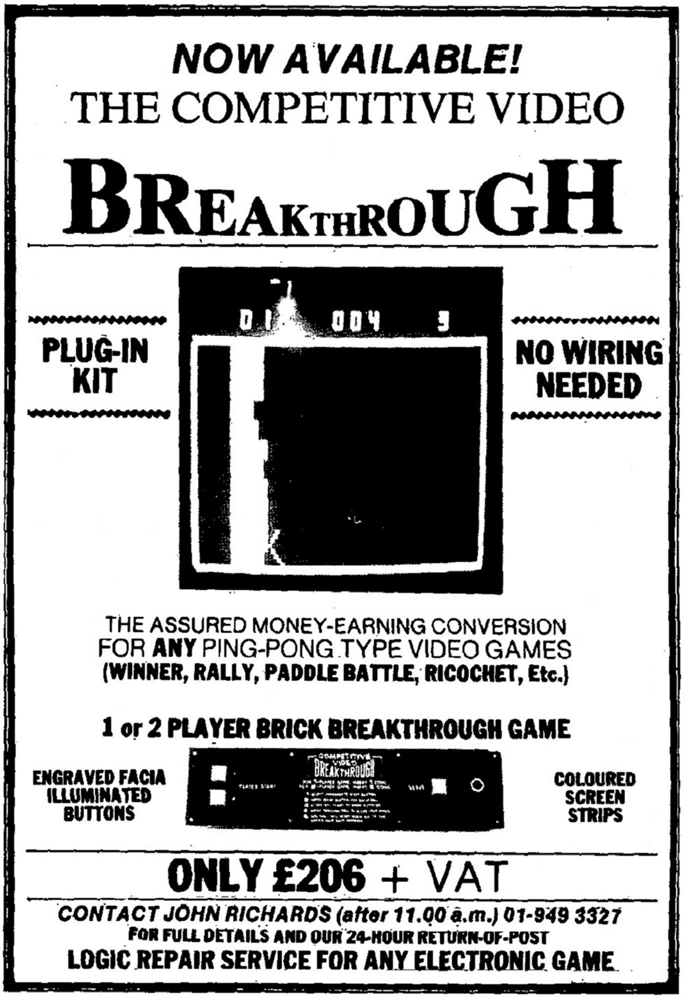

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Figure 5.3
Competitive Video's *Breakthrough*—a horizontal *Breakout* clone using TTL logic. This is an impressive technical feat. Coin Slot International.

John Stergides was born in Famagusta, Cyprus, in December 1947. After completing his military service, he decided to spend some time in London during late 1968, with the intention of eventually moving to the US. Stergides's relocation to the US fell through, and he changed his plans. He enrolled in a technical college course and worked in kitchens for the Trusthouse Forte group and even sold hot dogs outside a Leicester Square arcade. Eddie Conn, the manager of Trusthouse Forte's West End arcades, gave

Stergides a job as an attendant in the Golden Goose arcade on Old Compton Street, and with the income from this, he stopped doing kitchen work.

By 1970, Stergides was involved in many of Trusthouse Forte's London arcades, but he was primarily based in the Lucky Seven arcade in Oxford Street, a family-friendly place that contained novelties rather than AWPs. During his work as a freelance engineer, Collinson also worked at the Lucky Seven, and the two men formed a strong friendship. In the early 1970s, Trusthouse Forte began developing a hotel in Stergides's Cyprus hometown of Famagusta, and he was approached to work there in hotel management. In 1974, nearing the conclusion of his hotel management training, the Turkish armed forces invaded Cyprus, and Famagusta was abandoned by its residents, becoming the border zone between the Turkish and Greek occupied territory (which it remains to this day).

With his plans dashed once again, Stergides returned his focus to London arcade work. In partnership with his brother and friends, he took over the small Sun Spot arcade in Camden, and slowly built its machine mix from the ground up. As the Sun Spot became more successful, Stergides obtained the lease on another arcade, the fire-damaged former arcade and casino premises at 81 Tottenham Court Road. The site needed major refurbishment and Stergides and his colleagues opened the arcade in sections as the renovation work was completed.

While working in the Tottenham Court Road arcade, Stergides was approached by two Spaniards from Gran Canaria who were seeking like-new secondhand machines that they could export from Britain. Sensing an opportunity, Stergides approached his friend Collinson, who had extensive contacts in London and South Wales arcades, not only to locate prime machines but refurbish them. The two men went into partnership, founding Electrocoin on April 27, 1976, to handle the exports to Gran Canaria, and they also obtained a gaming license. The partners used the Tottenham Court Road arcade workshop outside of opening hours to refurbish the machines, and then Collinson would drive the shipments to Spain for further distribution. Stergides explained:

> We were using the back of the arcade to store and refurbish the machines—working from 7pm until late—John Collinson, myself, my brother, Costas, and Vigy, who were working in the Tottenham Court arcade during the day. Then we'd go to Mandra restaurant to have dinner and on Friday night to Elysse to break a few plates with Greek music.[43]

As they successfully fulfilled the machine orders, word of Electrocoin's services spread to other Spanish operators, and their international customer base grew. As it did, so did the challenges of getting money out of Spain and into Britain. In response, Stergides and Collinson took payment in the form of machines and formed an agreement with a Madrid-based manufacturer of pinball tables called Centromatic. Centromatic tables were strongly constructed, with thick Perspex covers and sophisticated component protection mechanisms, and Electrocoin began to advertise these for sale in the *Coin Slot* trade newspaper. The first Centromatic table imported into Britain, the *Libra,* sold well, and Electrocoin began heavily promoting the *Black Hawk* pinball table that followed it in October 1977 (confusingly titled *Hawk Black* in Cenromatic's promotional literature, see figure 5.4). Collinson explained its merits and suitability for busy London arcades with the voice of a seasoned arcade worker: "We have site tested this machine in West End arcades and this extra thickness Perspex has really proved a boon. It makes external cleaning that much easier and it prevents dust getting inside the machine itself. The result is a cleaner machine, a faster game, and less dirt damage internally."[44]

It is worth noting that pinball machines fell afoul of the Gaming Act of 1968 and were classified as games of chance and therefore subject to the restrictions of trade and operation that limited AWPs. But as Electrocoin held a Gaming Board license, this was no obstacle. It does explain the comparative rarity of pinball in Britain, however. While arcades did contain pinball machines and many people enjoyed them, they required significantly more space and more maintenance and generated less income than fruit machines. Therefore, pinball machines became somewhat of an aesthetic choice due to operator preference—those who liked pinball machines operated them, but for most, the cold economic reality of these operations meant that they were soon replaced by fruit machines, or later by videogames. The trade of refurbished machines from Britain and quantities of saleable equipment from Centromatic continued. Stergides explained that in late 1977, the company was sent a machine that fundamentally altered the company's trajectory:

> In one of the shipments we were sent a videogame, with a *Breakout* game board which was a top box with a TV and PCB with four pintable legs as a base. During the transportation it had fallen and was delivered to us completely smashed into pieces. We decided to rebuild it stronger, better, faster! We found a local carpenter and built one cabinet, used all the parts and the artwork and called it *Break-Free*. This was the start of video manufacturing for us.[45]

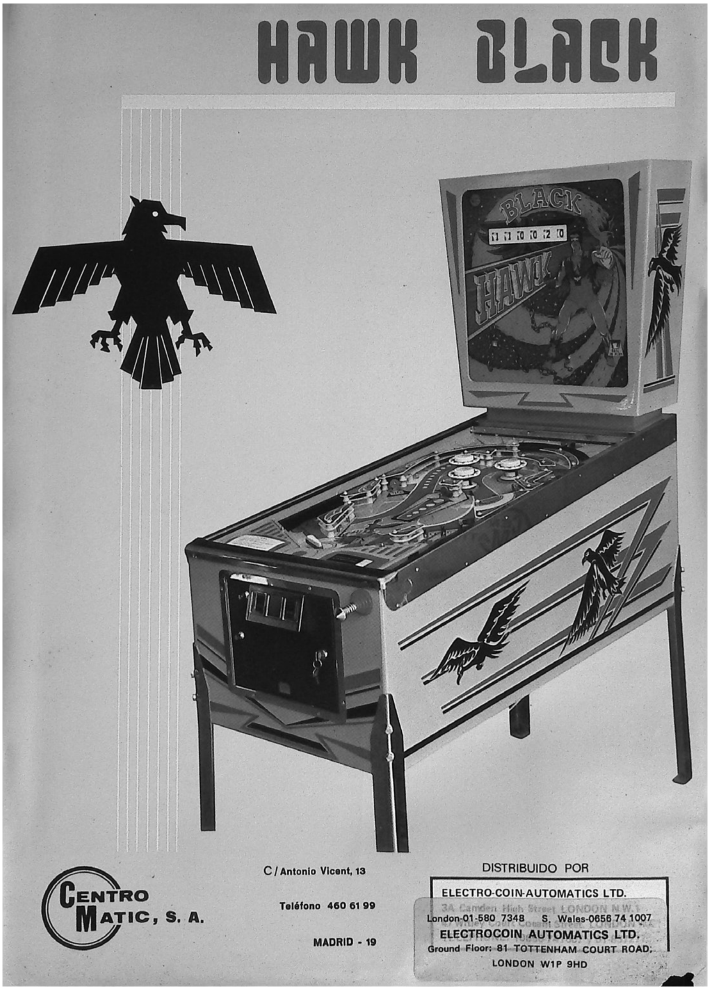
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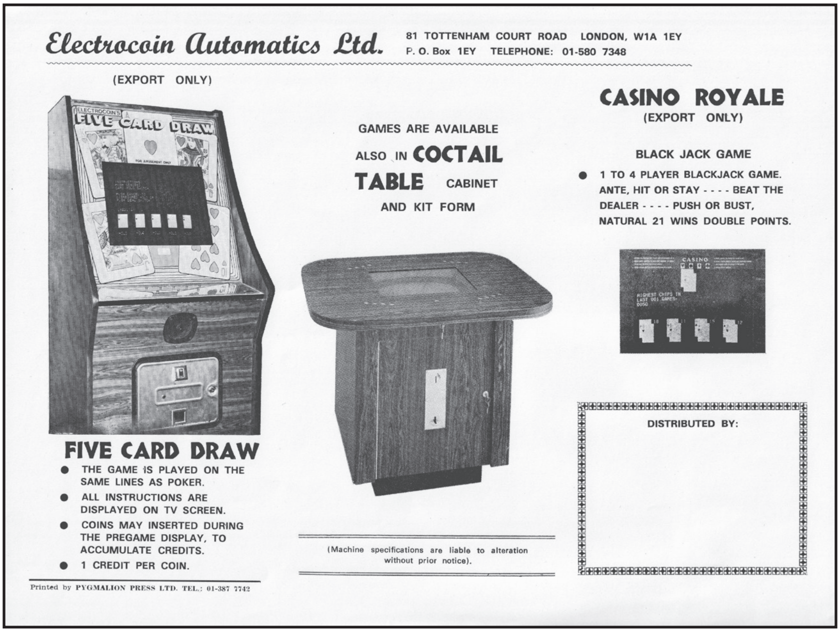
Figure 5.4
Electrocoin/Centromatic's *Black Hawk* (or *Hawk Black*?)—the second pinball machine that Electrocoin imported from Spain and key to its growth as a company. Nic Costa Archive, CCCU.

In February 1978, Electrocoin booked a stand at the Blackpool trade show where they featured the Centromatic pinball tables, including *Black Hawk* and *Casino 2000*, but more important to the company's future direction, also featuring the *Break-Free* video. Stergides had tested the videogame in the arcade, reporting very good income, and following this, the company ordered "five PCBs from *Belam* in the USA and monitors from *Hantarex*"[46] and began construction. As Stergides described it, "From there we went from one machine, to three, then five per week, then ten. Twenty-five per week was the maximum and so on."[47] What is important to point out is that even though they were dealing in small numbers, Electrocoin obtained the components through official channels and paid the necessary license fees.

With orders flowing in, it was soon evident that the Tottenham Court Road arcade workshop space was insufficient to meet demand. Electrocoin sought out new manufacturing premises. At this point, Jack Jones from the fruit-machine manufacturer JPM, a close friend of Collinson, was opening a new factory in Cardiff and offered part of the old ACE fruit-machine factory in Ferry Road, Cardiff, for Electrocoin to use. From this point forward, Electrocoin relocated its manufacturing to Wales, headed by Collinson, while sales and operations remained in London at the Tottenham Court Road arcade under Stergides's oversight. *Break-Free* had demonstrated to both directors that videogames had significant potential, and this became their immediate focus. Collinson traveled to the 1977 AMOA show in Chicago with the intention of meeting and obtaining contact details of new suppliers, and very soon Electrocoin had agreements with several American videogame manufacturers, including Meadows, Exidy, and Venture Line. In March 1978, Electrocoin advertised *Acrobat*, produced under license from the California-based Exidy; and in October 1978, Meadows' *Gypsy Juggler*, which Stergides and Collinson had renamed as *Juggler*. While the company was also interested in gambling machines (see figure 5.5), videogames soon became Electrocoin's focus.

The first wave of videogames entering Britain were typified by machines made by the American companies Atari, Exidy, and Gremlin. But while agreements with American manufacturers resulted in new videogames coming to market, it was another relationship that was formed at the AMOA that was critical to Electrocoin's future development and the shape of the entire British arcade industry. Collinson had visited the booth of the Japanese manufacturer Universal at the trade show, run by Kazuo Okada. All



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- COINS MAY INSERTED DURING THE PREGAME DISPLAY, TO ACCUMULATE CREDITS.
- 1 CREDIT PER COIN.

(Machine specifications are liable to alteration without prior notice).

Printed by PYGMALION PRESS LTD. TEL.: 01-387 7742

Figure 5.5
An early Electrocoin flyer for the *Five Card Draw* video poker game. Author's collection.

of the American and British distributors were talking to Universal's Okada, but none followed up on the initial discussions. Bob Deith, visiting from Deith Leisure, had ordered several games, but upon returning to Britain, for whatever reason, he decided against collecting the order. Stergides had maintained contact with the Japanese manufacturer and learned of Universal's cancelled order and rejection by the other distributors. Stergides explained his response:

> I sent Mr. Okada a telex and asked him if we could help, he sent us the games, and we showed them at the Alexandra Palace trade fair. I met Mr. Okada and I was open with him and gave him a few suggestions and we spent time together with his team. They then visited our Tottenham Court Road arcade and office, a small room at the back of the arcade. There I mentioned that we might also be able to help with *Universal* slot machines. We bought all the machines they had shipped for *Deith Leisure*.[48]

This was the beginning of Electrocoin's, and particularly Stergides's, relationship with the Japanese videogame industry, which came to define the British arcade in future years. Universal were impressed by Stergides's conduct, awarding Electrocoin the exclusive license for its videogames and AWPs. This gave Electrocoin a preferential reputation among many Japanese manufacturers, gave them access to unique lines of videogame and fruit machine stock, and placed the company in an enviable position when Taito's *Space Invaders* became a hit and demand for space-themed videogames expanded. As Stergides explained, "We were ready when the industry revolution happened with arrival of the *Space Invaders* from Taito, a year later. We had the advantage that we were more prepared than other companies and we had the right games on the right cabinets."[49]

Space Invaders Enters Britain

While many histories talk of the arrival of *Space Invaders* in Japanese arcades from June, and perhaps American arcades in July, the game didn't become available in Britain until December 1978. In October 1978, a former Associated Leisure salesman called Derek Kraft joined the London-based Taito Electronics Ltd., established to handle the importation and sale of games from Taito Japan, starting with *Space Invaders (*see figure 5.6).[50] The first British shipments of *Space Invaders* arrived for site testing at Atlantic Coin's Fun City arcade in London Piccadilly in November 1978, and the machine went on sale December 1.[51]

The British stock sold out immediately, and back orders for more stock were placed. By January 1979, after the game was available for only a month, some arcade operators, having assessed its popularity over the Christmas holiday, had already decided to go all-in with *Space Invaders*. Fun City, which boasted six *Space Invaders* machines, then placed an order for four more. While it was common for an arcade to site multiple copies of an AWP, it was unheard of for a site to operate six, let alone ten, copies of the same videogame. *Space Invaders* was evidently something special; —by late February, it was already being heralded as "the video machine of 1979"[52] and was enormously popular with players. By August 1979, not content with ten machines, Fun City expanded its fleet of *Space Invaders* to fourteen machines.[53] British arcades had gone crazy for *Space Invaders*.

Space Invaders reignited the public's—and industry's—interest in videogames, and Taito Electronics did exceptional trade, but like Bell-Fruit before them, they could not meet customer demand. This became a repeat

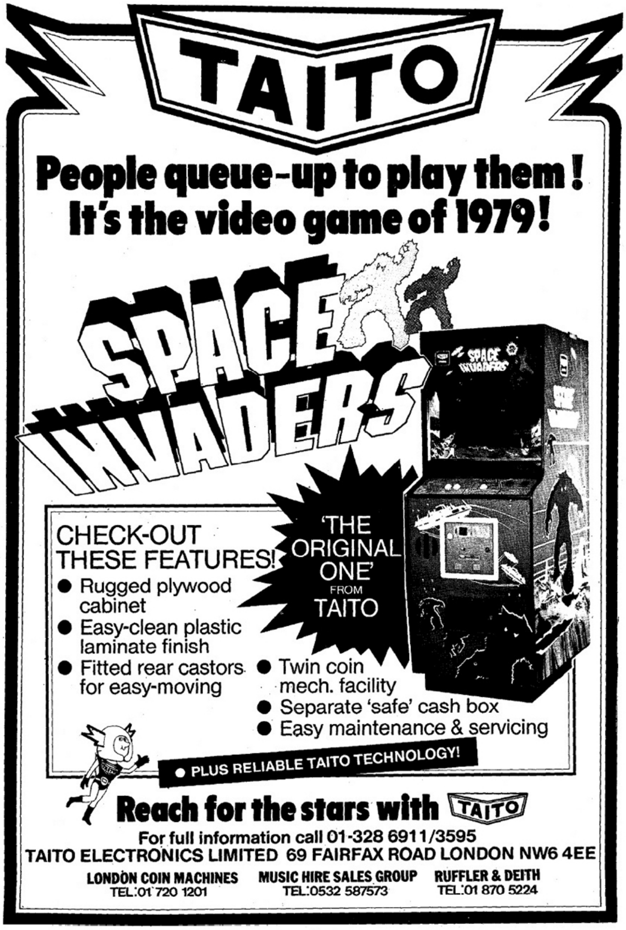

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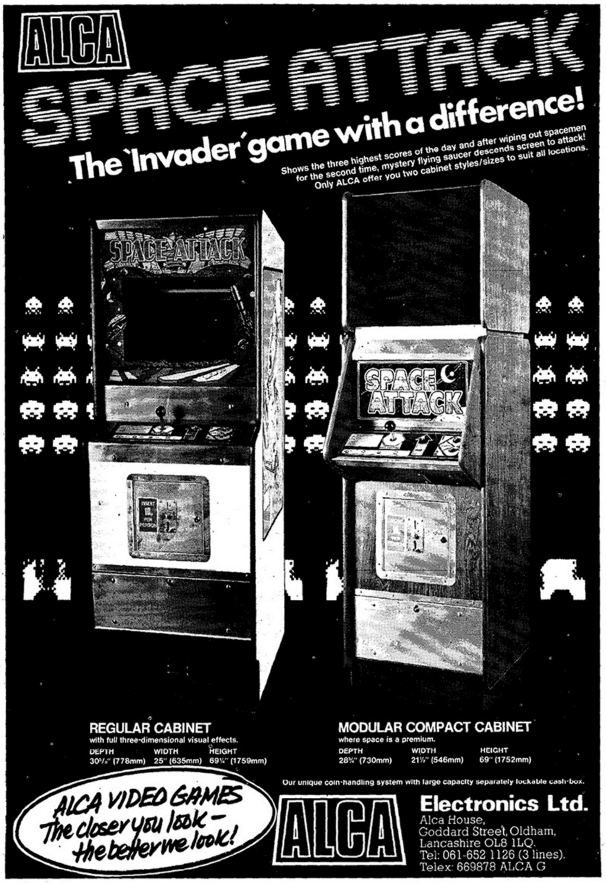
Figure 5.6

Taito's *Space Invaders* ad from the *Coin Slot* trade press, March 17, 1979. Coin Slot International.

theme throughout the British coin-operated trade, with supplies of popular machines soon being outstripped by demand, thus opening opportunities for alternative supply routes. As a result, videogames sharing similar space themes, such as Electrocoin/Universal's *Cosmic* series, and clones and copies produced by other companies, filled the void. In March 1979, just three months after the arrival of *Space Invaders* in Britain, Alca unveiled *Space Attack*, a close copy of the Taito machine (see figure 5.7). It isn't clear how


SPACE ATTACK
SPACE ATTACK

ALCA

SPACE ATTACK

The 'Invader' game with a difference!

Shows the three highest scores of the day and after wiping out spacemen for the second time, mystery flying saucer descends screen to attack! Only ALCA offer you two cabinet styles/sizes to suit all locations.

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with full three-dimensional visual effects.

DEPTH	WIDTH	HEIGHT
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MODULAR COMPACT CABINET
where space is a premium.

DEPTH	WIDTH	HEIGHT
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the better we look!

ALCA Electronics Ltd.
Alca House,
Goddard Street, Oldham,
Lancashire OL8 1LQ.
Tel: 061-652 1126 (3 lines).
Telex: 669878 ALCA G

Figure 5.7
ALCA's *Space Attack* ad from the *Coin Slot* trade press, also from March 17, 1979. Coin Slot International.

the game was made; it was likely bought from a Japanese PCB manufacturer, using a slightly edited version of the Taito code. Alca delivered 100 units of *Space Attack*, which *Coin Slot* acknowledged was "based upon Taito's popular Space Invaders,"[54] to Joyland, a major Irish distributor. In the same month, Electrocoin released Universal's *Cosmic Monsters* in Britain.[55]

By May 1979, with the *Space Invaders* craze escalating, Colin Mallery was now working in a senior sales position at Ruffler & Deith, the once-again merged distributor that had been purchased by a conglomerate called Hawley

Leisure. Mallery described the demand for *Space Invaders* that eclipsed income from other machines:

> Most of the money went with *Space Invaders* that was the biggest thing at the time. I mean they were begging for them. They would ring up and say I need a *Space Invaders*, my neighbor down the road has got one, and all the people are going down there. I need one. So, you'd say I can't get you one until the next consignment comes in about four weeks' time. And they'd say, 'Ahh I've got to have one, I'll pay you this, I'll do this,' they'd promise all sorts of things to try and get one.[56]

While *Pong* had been somewhat of a novelty, *Space Invaders* captured the imagination of the public, attracting players into arcades in droves, and when the public tired of *Space Invaders*, arcade owners sought new space games to entice them back. Arcades engaged in an arms race, vying to install the newest and best games to attract and retain the public and their money, and salesmen like Bob Deith, Colin Mallery, and John Stergides played an important role in this relationship. They used their global coin-machine industry links to identify, secure, and import the very best games into Britain and advised arcade operators who were unfamiliar with videogames of what machines might suit their arcade and clientele best. Furthermore, while videogames were potentially popular and lucrative, they had a shorter life span compared to traditional physical and electromagnetic games, and this meant that arcades renewed and rotated videogame stock between sites more rapidly. Distributors, operators, and players sought the latest and best games, but videogames were so new and unfamiliar that it was unclear what characteristics made a good game. Operators relied upon distributor advice, reports of test-site income, word of mouth, and often just buying whatever games appeared popular in similar arcades.

According to Mallery, a typical shipment of videogames for Ruffler & Deith would be three 40-foot containers, each holding about forty-five machines. But while the demand for *Space Invaders* resulted in great quantities of sales for distributors, these counterintuitively strained the company's finances, as many of the machines were purchased with finance agreements. Mallery remembered, "We had a turnover at one point of a hundred and something million, and made a profit of one."[57] The distributor would pay the manufacturers for the machines, but payment from the customers was sometimes slow and incremental, and distributors struggled with liquidity. Mallery continued:

> We trod a fine line, it was what the customers owed us, one customer owed us £1.1 million. A team of guys up in Scotland, showmen, owed £1.5 million. They

> all paid, but took a long time. The distributor was in the wrong really, there wasn't enough protection for a distributor. But the manufacturers weren't worried about that as long as they got the business, and the customer wasn't worried about that either.[58]

The demand for *Space Invaders* was so great that operators resorted to whatever steps were necessary to obtain machines for their arcades, even if this meant buying a similar space-themed machine, a cloned game such as *Space Attack*, a machine parallel-imported from another territory, or indeed (now that *Space Invaders* was software code running on microprocessor hardware) a copied board. The Italian manufacturer Zaccaria produced a licensed version of the Taito machine initially intended only for Italy, called *The Invaders*. This machine soon found its way into British arcades and was eventually sold by major distributors. It became common for arcades to feature *Space Invaders*, *The Invaders*, space games, and copies alongside one another. While today we might balk at the flagrant breach of copyright, in the late 1970s and early 1980s, the legal status of the software code that created games was unclear. There had not yet been a test case to determine whether copyright law applied to videogame code stored on the chips on a PCB, and those trading in copies and clones were quite willing to exploit the situation. With operators desperate to buy games, limited legitimate supply, and a market becoming accustomed to trading with Japanese companies, with financial credit readily available and with distributors shouldering large unpaid debts, what could go wrong?

The popularity of *Taito's Space Invaders* and successive space-themed arcade games, where phosphorescent dots were projected onto a black cathode-ray tube (CRT) screen, led to another change in British arcades. To best display their games and to match the technological space-age themes of so many games, arcades adopted a darker decor. While Sue Fisher spoke of the 1995 arcade being nightclub dark[59]—not something that I recognized in the seaside arcades of the late 1980s—up until the arrival of *Space Invaders,* British arcades had tended to be relatively well lit, or perhaps dimly lit to make the lights on a fruit machine or pinball game look more impressive. Some seaside arcades that had typically been designed to be open, airy, and inviting remodeled and sectioned off areas specifically for videogames, which were often painted with black paint and dimly lit. The darker space made the screens look brighter and reduced glare. Cain's Amusements in Herne Bay and Joyland in Bridlington followed suit, and this aesthetic was adopted throughout the country. The popularity of arcade videogames led to a change in the decor and character of British arcades.

Japanese Partnership

The success of *Space Invaders* and the strength of operator demand for space games motivated British distributors and manufacturers to seek out new partnerships with Japanese game manufacturers. From 1979 onward, the trade press was awash with announcements of companies securing exclusive British distribution rights for Japanese games, and during this period, companies such as Nichibutsu, Data East, and Tecmo became familiar to the British coin-machine industry. The sudden decrease in demand for anything but videogames, and the potential profits to be made in videogame manufacture, were such that traditional amusements and AWP manufacturers retooled and entered the videogame assembly business. The fruit-machine manufacturer Bell-Fruit began making Namco arcade games, including *Galaxian,* under license in November 1979,[60] while Electrocoin formally announced its exclusive manufacturing deal with the Japanese company Universal in the same month. Ruffler & Deith, under the leadership of Bob Deith, secured sole rights to distribute *Nichibutsu* (likely one of the reasons that the previous Universal order was declined), and sales directors from firms across Britain booked flights to Japan to tour factories, meet hardware manufacturers, and strike deals. Industry press reports of visits to Japan spoke of burgeoning opportunity. Describing his experiences of arranging the *Nichibutsu* deal, Bob Deith explained: "I am very impressed by the *Nichibutsu* factory in Osaka, Japan. They have a young and progressive management team, the president Mr S Torii, is in his early thirties. The factory has an annual turnover in excess of £15m. They manufacture over 3,000 games per month and have been in business for ten years."[61]

Most important, Deith explained that *Nichibutsu* had such heavy commitments in the Japanese market that none of their games had yet been seen outside the country, and stories like this appealed to those looking for the next *Space Invaders*. Here were games never seen in the West, and Japan was seen as a land of opportunity and fortune.

6 Copyright Defenders and the British Videogame Crash

The sudden resurgence of public interest in the arcade caused by the arrival of Taito's *Space Invaders* led to something of a gold rush as manufacturers, distributors, and operators vied to secure new Japanese videogames. This process began in 1979 and accelerated throughout 1980, and distributors traveled to Japan seeking printed circuit boards (PCBs) to build into cabinets constructed in Britain, much as Alca had done with *Ping-Pong* seven years before. British arcades were suddenly awash with new arcade games assembled by new manufacturers, and both the cabinets and the games were of variable quality. Entrepreneurs designed and assembled cabinets from chip-boards, installed television sets as monitors, imported Japanese game boards, and sold their machines through the classified advertising pages in *Coin Slot* or at a stand at one of the national trade events. Distributors with established reputations, financial clout, and industry contacts tended to get the best deals, but canny negotiation and plain luck also counted for a lot. In January 1980, Trusthouse Forte's subsidiary, London Coin, secured exclusive British rights to a 1,000-machine agreement for Data East's *Astro Fighter*, and Nintendo's *Sheriff*, with a contractual option for an additional 3,000 games.[1] Major distributors imported individual boards by the hundreds (and later thousands), and by doing so, they were often able to secure exclusive rights for many games in Britain. Less desirable games (not that there was consensus about what made a game good) were picked up by smaller companies who ordered fewer boards, and these deals were rarely exclusive, or for high-quality games.

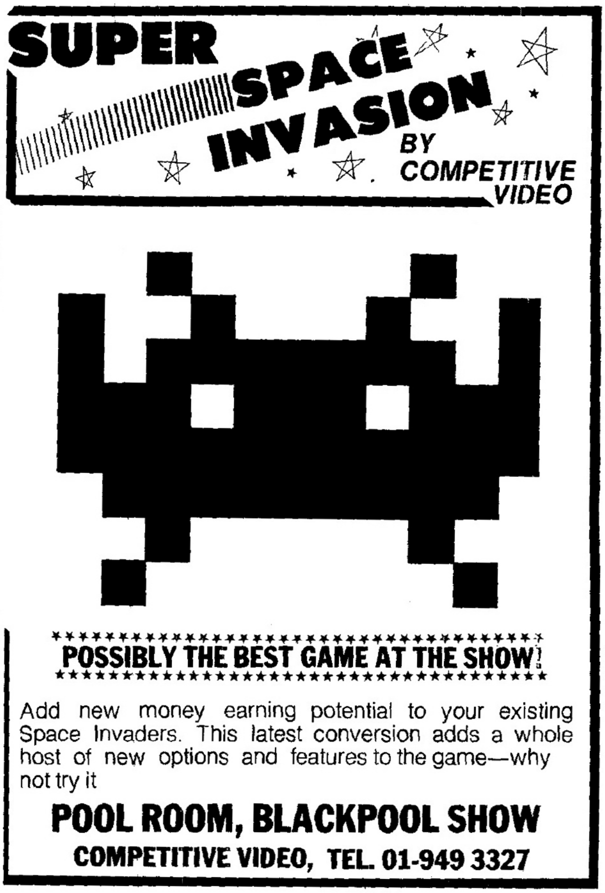
One of the issues was that the negotiation of PCB deals often took place at the relatively few international trade shows where scores of games were displayed (in Japan, the US, Britain, Australia, and elsewhere). British importers faced an unenviable high-stakes task—namely, to secure the very best games—and the need to outperform competitors in negotiations and covering the exhibition floor led to creative (and mischievous) tactics. Game World Group's Freddy Bailey recounted one tactic that he employed to get the edge over his competition in the summer of 1980 (likely at the Australian Amusement Machine Operators Association's convention, held at the Queensland's Gold Coast), which despite having relatively few Japanese exhibitors, did include Nintendo's unveiling of the *Space Firebird* videogame. On the eve of the exhibition, Freddy organized a raucous party for his fellow distributors, ensuring that the drinks flowed well into the small hours of the opening day. However, although Bailey was a gregarious party host, he did not overindulge himself and retired to a separate suite elsewhere in the hotel long before the party ended. Consequently, Bailey was refreshed and ready to strike deals while his competitors were nursing hangovers. And this may have given Bailey the edge: a later edition of *Coin Slot* announced that he had "hired an entire plane at a cost of £29,000 to bring in 200 Space Firebird cocktail tables"[2] to Britain. In doing so, Game World Group became the only company in Britain with Nintendo machines in stock, and despite the eye-popping transportation costs, it made considerable profit. License agreements such as for Bailey's *Space Firebird* were announced in the industry press frequently, often release by release. If 1979 was the year of *Space Invaders*, then 1980 was the year that Japanese videogames entered the British arcade and the British social imagination en masse.

The arrival of fascinating new games in 1980 also marked the start of wide-scale videogame board piracy, with copied PCBs passed off as originals and slightly modified games sold under different but still recognizable names. Whereas transistor-transistor-logic (TTL)–based games such as *Pong* and *Breakout* were built through a pattern of logical components, *Space Invaders* used a microprocessor that interpreted code held on chips attached to the game board. Copying a TTL-based game required careful duplication of the board's component architecture, but a microprocessor-based game could be duplicated by copying the data on the chips and placing them on a compatible PCB motherboard (and much like a games console, an arcade motherboard was used by manufacturers for years at considerable development costs). Think of arcade videogames as a range of different game hardware, each with a game cartridge held on a series of chips; these were inserted into cabinets, and the chips could be changed to play different games on the same hardware (later arcade videogames came in plastic enclosures and resembled large Super Nintendo Entertainment System [SNES] or *MegaDrive* game cartridges). Of course, all of this is invisible to the player, who just sees a coin slot, a control panel, and a screen.

At first, few people had the expertise and equipment necessary to read, modify, and write chips, but the commercial interest and profits that could be generated made these skills worth learning. Someone with access to an authentic game board and a copying setup could rapidly duplicate a game's chips, which could be inserted into a PCB with compatible architecture, turning an old game into a new one. Those with ready access to electronics components and equipment could rapidly and inexpensively copy games, while the same process, with the added nontrivial steps of decompiling and editing code, could result in significantly modified games. Certainly, changing a game's name and removing any reference to the original manufacturer was a relatively straightforward task. As international demand for videogames mushroomed, many manufacturers were prepared to sell entire duplicated game boards, game upgrade kits that turned an old game into a new one, slightly altered and generally renamed versions of legitimate games, and created home-brewed modifications that added new functionality to existing machines. To complicate matters further, some manufacturers sold legitimate chip upgrade kits for their games, and for arcade operators buying a handful of microchips stuck into some gray foam, there was often very little way of telling whether a kit was officially licensed (aside from its price).

Competitive Video

By mid-1980, John Richards's Competitive Video had become the most prominent British company dealing in videogame conversions and upgrade kits. Prior to this point, Richards had applied his microelectronics skills to produce physical TTL logic-based modifications, but with the arrival of *Space Invaders,* he invested in equipment, disassembled *Space Invaders* to its source code, began changing things, and eventually learned how it worked. Richards then began selling upgrade kits and conversion services for modified versions of *Space Invaders*, such as *Super Space Invasion* (see figure 6.1), with its plethora of speed, difficulty, and functionality options, which he demonstrated at the Blackpool trade show in February 1980.[3] The kits sold exceptionally well, with Richards furiously completing orders and copying chips throughout the exhibition and for some time afterward.



SUPER SPACE INVASION BY COMPETITIVE VIDEO

POSSIBLY THE BEST GAME AT THE SHOW!

Add new money earning potential to your existing Space Invaders. This latest conversion adds a whole host of new options and features to the game—why not try it

POOL ROOM, BLACKPOOL SHOW

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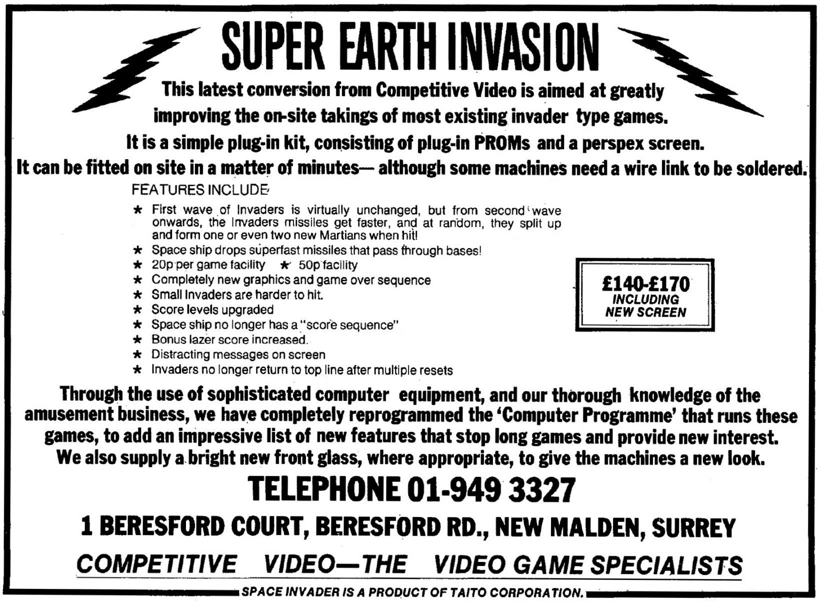
Figure 6.1

Competitive Video's *Super Space Invasion* videogame conversion ad from the *Coin Slot* trade newspaper. Coin Slot International.

The modifications were not without idiosyncrasies, and on occasion there were unanticipated repercussions due to imperfect modifications. Richards recalled:

> One operator complained that players seemed to be getting lots of credits. It transpired that the Space Invaders RAM was shared by video and working RAM for the game and was interrupt-based. When I changed the speed the UFO went into the edge of the screen and into the working RAM and changed the memory address for the number of game credits.[4]



SUPER EARTH INVASION

This latest conversion from Competitive Video is aimed at greatly improving the on-site takings of most existing invader type games.

It is a simple plug-in kit, consisting of plug-in PROMs and a perspex screen.

It can be fitted on site in a matter of minutes— although some machines need a wire link to be soldered.

FEATURES INCLUDE

- ★ First wave of Invaders is virtually unchanged, but from second wave onwards, the Invaders missiles get faster, and at random, they split up and form one or even two new Martians when hit!
- ★ Space ship drops superfast missiles that pass through bases!
- ★ 20p per game facility ★ 50p facility
- ★ Completely new graphics and game over sequence
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- ★ Space ship no longer has a "score sequence"
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- ★ Distracting messages on screen
- ★ Invaders no longer return to top line after multiple resets

£140-£170
INCLUDING
NEW SCREEN

Through the use of sophisticated computer equipment, and our thorough knowledge of the amusement business, we have completely reprogrammed the 'Computer Programme' that runs these games, to add an impressive list of new features that stop long games and provide new interest. We also supply a bright new front glass, where appropriate, to give the machines a new look.

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COMPETITIVE VIDEO—THE VIDEO GAME SPECIALISTS

SPACE INVADER IS A PRODUCT OF TAITO CORPORATION.

Figure 6.2

Competitive Video's *Super Earth Invasion* videogame conversion ad from the *Coin Slot* trade newspaper. Coin Slot International.

As the year progressed, the number of modifications that Competitive Video offered increased. Having begun producing physical TTL modifications before moving to microchips, Richards saw no need to pay Taito or other developers any royalties from the sales. While Competitive Video became one of the most visible and recognized British suppliers of unlicensed upgrade kits and cloned games, there were far more anonymous international entrepreneurs who traded in illegitimately copied boards. These directly copied games often originated from Japan and South Korea, but Italy soon developed a reputation as a major European source of copied games. Copied games, produced without licensing, research or development costs, sold for much less than official boards, and legitimate distributors found it increasingly difficult to compete. The scale of the problem became apparent at the April 1980 Milan Amusements Fair, which reportedly featured "at least twenty copies of current successful American and Japanese games, apparently tolerated by official licence holders,"[5] including the most popular new game of the time, Atari's *Asteroids*.

It should be remembered that copying had been a feature of the coin-operated industry since the 1880s, evidenced by countless machines introducing very minor improvements. In fact, this pattern of emulation and improvement had become naturalized and tolerated to some degree in machine design and construction circles. While copying was not unique to videogames, it was also seen in fruit machines and electromechanical games; in the shift from hardware to software, the economics of copying became clear. Bill Tulloch, managing director of Subelectro, a Cheltenham-based videogame manufacturer formed in June 1973, acknowledged the situation in the early 1980s: “Yes, there is a great deal of copying in the video game industry, but probably no more so than in the fruit machine manufacturing trade. . . . Our policy is to study the best games on the market in the world and then redesign and reprogramme that concept to suit British thinking.”[6]

Copyright Does Not Apply

One of the contributory factors for copying was that it was unclear whether copyright applied to software code held on microchips, and copiers took advantage of this lack of legal clarity. Many in the industry therefore regarded licensing agreements as *preferable*, but not wholly necessary, and as profits diminished, some likely felt that copies became an economic necessity. On this matter, Subelectro’s Tulloch explained, “Advice that I have had from counsel on the origin of any game yet produced is that the games themselves are all evolutions of the existing games, and therefore no court in the UK would find in favour of an originator of an idea.”[7] Tulloch’s view, shared by many, was that copyright simply did not apply to videogame code, and modified or copied games were a continuation of the pattern of incremental development and permissible by law. They viewed videogames as a product—including the wood, the monitor, the PCB motherboard, decals, and other hardware—instead of as a sequence of binary code on a chip. Besides, with so many games being sold, there was enough money for everybody to make a cut, right?

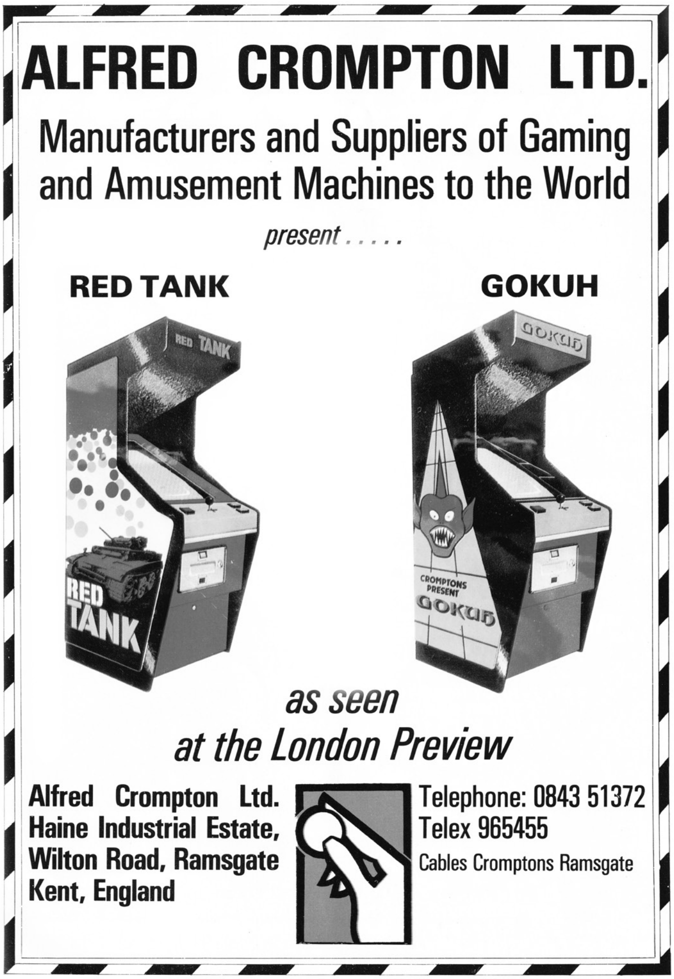
Lots of companies were making copies. David Green, managing director of BG Video, claimed that his company was the third videogame manufacturer to set up in Britain in 1978, but as of July 1980, there were thirty British companies making videogames, nearly all of them producing copies and modifications of Taito’s *Space Invaders*. He warned that the “little men making five or ten games a week"[8] jeopardized the future of the entire videogame industry—and as later became evident, he was quite correct. But while Green blamed the little men, he also accused manufacturers of exacerbating the situation due to chronic undersupply. Green argued, "There was no way that Taito could have supplied the demand for Space Invaders. Someone in Japan copied it and sold kits to British manufacturers."[9] It was this unmet demand that created the market conditions for the rampant copying of subsequent releases; the lack of legal clarity was merely a bonus. Despite assumptions of legal impunity, the view of the trade press was clear, *Coin Slot* accused the smaller manufacturers of "blatantly ripping off other people's ideas" and warned the copier to "assimilate the facts: that he is ethically wrong; that legal action will inevitably follow."[10]

Red Tank and *Gokuh*

The industry's focus on videogames was an enormous financial blow to manufacturers of traditional electromechanical machines. During the summer of 1980, Cromptons moved into videogame manufacturing, traveling to Japan to obtain distribution licenses in an attempt to generate revenue. Jim Crompton explained the urgency of the move, saying that "last year the trade changed dramatically and virtually overnight. Videos seemed to swallow up almost entirely the trade requirements for new machines. As a result people like us who had concentrated on traditional machines suffered."[11]

By August 1980, after what appeared a successful Japanese trade visit, Crompton obtained sole distribution rights for Sigma's *Red Tank* and *Gokuh* videogames, but the success of these games highlighted another complication. *Red Tank* translated easily to a British audience; the player controlled a tank from above, destroying enemy tanks, collecting dots for points, and avoiding antitank mines. *Gokuh*, on the other hand, was an example of the challenges of inexperienced videogame selection and importing Japanese games without extensive testing with a British audience, as well as the importance of localization. Jim Crompton's son, John, described *Gokuh* gameplay as follows:

> Weird, really weird. There was a triangle on the screen, and you had these enemies, you had to get your man to one of the four or five stations, you had to be quick and had to go up. When you're ready to go, you fire the button, and it would take you? to the top, and then you had to get through this maze. It was a great game.[12]



ALFRED CROMPTON LTD.

Manufacturers and Suppliers of Gaming and Amusement Machines to the World

present . . . . .

RED TANK

GOKUH

as seen at the London Preview

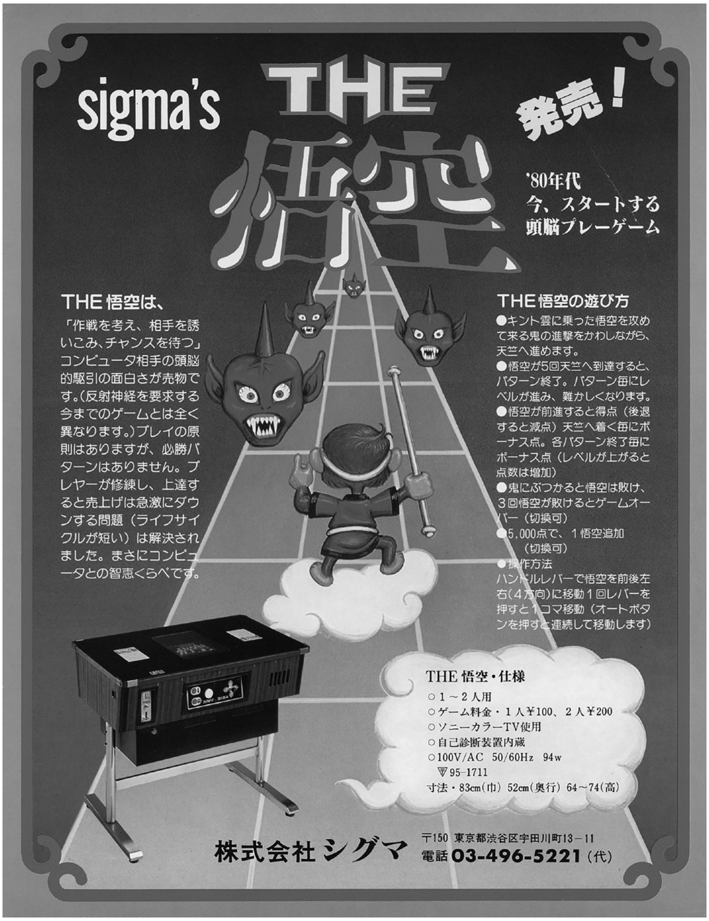
Alfred Crompton Ltd.
Haine Industrial Estate,
Wilton Road, Ramsgate
Kent, England

Telephone: 0843 51372
Telex 965455
Cables Cromptons Ramsgate

RED TANK
RED TANK
GOKUH
CROMPTONS PRESENT
GOKUH

Figure 6.3
Crompton's *Red Tank* and *Gokuh* trade advertisement from *Leisure Play* magazine. Leisure Play.

Yet the public didn't think *Gokuh* was a great game. They found it confusing. And it did not perform at all well in the declining British market. Cromptons' diversification into videogames, much like others inexperienced or unlucky with licensing deals, was not a success, and by 1981, with echoes of the tail of the *Pong*-craze, the company had a stock of unsold PCBs and components for many cabinets. Hence, Cromptons faced a dire financial outlook. Their international exports had likewise been reduced



sigma's THE 悟空

発売！

'80年代
今、スタートする
頭脳プレーゲーム

THE 悟空は、

「作戦を考え、相手を誘いこみ、チャンスを待つ」コンピュータ相手の頭脳的駆引の面白さが売物です。（反射神経を要求する今までのゲームとは全く異なります。）プレイの原則はありますが、必勝パターンはありません。プレヤーが修練し、上達すると売上げは急激にダウンする問題（ライフサイクルが短い）は解決されました。まさにコンピュータとの智恵くらべです。

THE 悟空の遊び方

●キント雲に乗った悟空を攻めて来る鬼の進撃をかわしながら、天竺へ進めます。
●悟空が5回天竺へ到達すると、パターン終了。パターン毎にレベルが進み、難かしくなります。
●悟空が前進すると得点（後退すると減点）天竺へ着く毎にボーナス点。各パターン終了毎にボーナス点（レベルが上がると点数は増加）
●鬼にぶつかると悟空は敗け、３回悟空が敗けるとゲームオーバー（切換可）
●5,000点で、１悟空追加（切換可）
●操作方法
ハンドルレバーで悟空を前後左右（４方向）に移動１回レバーを押すと１コマ移動（オートボタンを押すと連続して移動します）

THE 悟空・仕様

○１～２人用
○ゲーム料金・１人￥100、２人￥200
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電話 03-496-5221（代）

Figure 6.4
Sigma's Japanese *Gokuh* trade advertisement. Sigma.

by the global videogame demand, and the Cromptons returned to arcade operation, buying the darkly decorated and videogame-themed Space City arcade on the Margate seafront, while seeking better videogame licenses to use in the cabinets that they could build.

"Sell Anything to Anyone at Any Price"

The growing number of copies and unlicensed modifications wasn't the only source of discord. By 1981, the productivity and attitude of the Japanese coin-operated manufacturing industry were also becoming issues for British delegates seeking licenses. One visitor lamented the "apparent determination of so many Japanese companies to sell anything to anyone at any price."[13] At the same time, distributors complained that the sheer number of games on display made it impossible to confidently select suitable games for the British market. Salespeople who either had the knack of backing successful machines, or had simply been lucky rose quickly in the distributorships, while poor selections bankrupted companies. The pressure to obtain exclusive licenses, combined with the scale of Japanese output (not to mention some unscrupulously aggressive Japanese sellers), resulted in British companies importing many unusual, derivative, and frankly not very good games into the country.

After the commercial failure of *Gokuh* and *Red Tank*'s modest *returns*, Cromptons then fell afoul of the unscrupulous licensing activities of some Japanese manufacturers and distributors. In January 1981, having obtained the rights to manufacture Irem's *UniWar S* in Britain, Cromptons discovered that a competing firm, Mandivel, held claim to the exclusive license for the same region. Following a feature exposing this in the trade press, other companies came forward as well, and it was apparent that even more British firms had been sold *the same license* for *UniWar S*. Jim Crompton lamented: "We feel pretty sick about it, it's just turning into a giant rip-off and makes you wonder what point there is in trying to do things above board by getting a license to manufacture here."[14]

Evidently, other companies reached similar conclusions and decided that while not expressly illegal, dealing in copies made sound business sense—especially when business negotiations with Japanese manufacturers appeared so risky. The situation in 1981 was so absurd that manufacturers showing at one of the British trade fairs complained that "until the stands are up and the equipment assembled at Olympia no-one is going to know for certain how exclusive, or otherwise, their own particular video models are."[15] We might well blame the situation upon the naivete of British trade delegations at Japanese trade shows, compounded with the absolute pressure to obtain a license and indeed issues of translation, but the sad situation was equally caused by aggressive, misleading, and opportunistic sales practices. Still, BG Video's managing director, Alan Bassett, offered insight into the tenacity of Japanese copiers seeking British customers:

> We are getting telexes offering us anywhere between six and eight games and we are getting these offers daily. There are a lot of cowboys—particularly in Japan—selling ripped-off PCBs but as soon as we ask them whether they are licensed to sell them to our country they either don't reply or tell us blatant untruths. *Scramble* is the most popular. At least half-a-dozen different Japanese companies have offered to sell us boards for it.[16]

There were undoubtedly enormous profits to be made by those importing the right games into Britain under the right terms, but the risk of making a bad deal was of incurring significant losses. Faced with a mass of new videogames at the Japanese trade shows, uncertainty over the status of negotiated deals, and a wave of copied, cloned, and modified games entering the British market, distributors ordered fewer boards, and the videogame boom that had been started by *Space Invaders* in 1979 suddenly began to implode. The experience for arcade *players* was a period of plenty, with many diverse arcade videogames suddenly available—albeit of variable quality—but distributors found it difficult to compete with the copies and clones, and arcade operators watched as the quantity of machines available drove down individual machine earnings. This did not reach the same devastating point as it did in North America, as British arcades relied on a diverse machine mix of Amusements with Prizes (AWPs), pool tables, and other amusements. The decline in videogame profits also brought about changes to the British industry. Electrocoin's John Stergides became an advocate for videogame cabinet conversions, with a shift from dedicated machines to cabinets in which game boards could be changed with only minor adjustments. Electrocoin began marketing official conversion kits for the *Lady Bug* and *Cosmic Avenger* games, including a PCB and marquee.

While the average profits for videogames declined, there was still enormous public interest in games, especially the very best examples. The right game could make good money for the arcade owner, distributor, and manufacturer. One of the most popular games in 1981 was the Japanese manufacturer Konami's *Scramble*, distributed in Britain by Subelectro. *Scramble* was the game that BG Video's Alan Bassett had complained about being inundated with unlicensed board export sales offers. The game had been released in Japan in February 1981 and in the US in mid-March, and was famous for being the first side-scrolling game with discrete levels. The British licensing for *Scramble* was somewhat convoluted, with Summit Coin obtaining the exclusive British license, but then granting the rights to

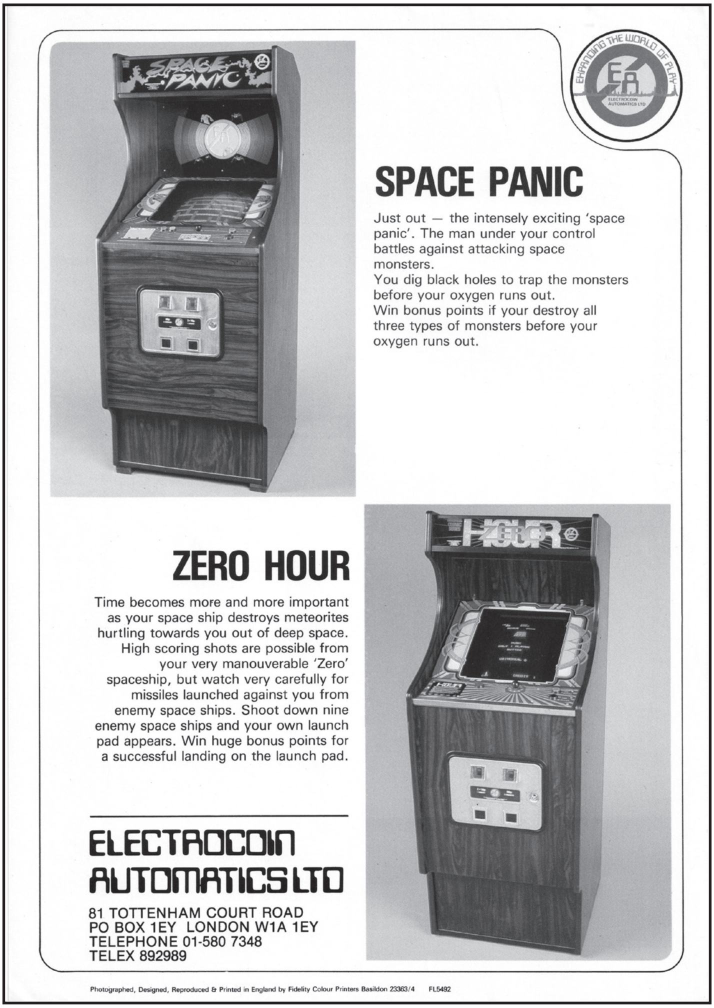

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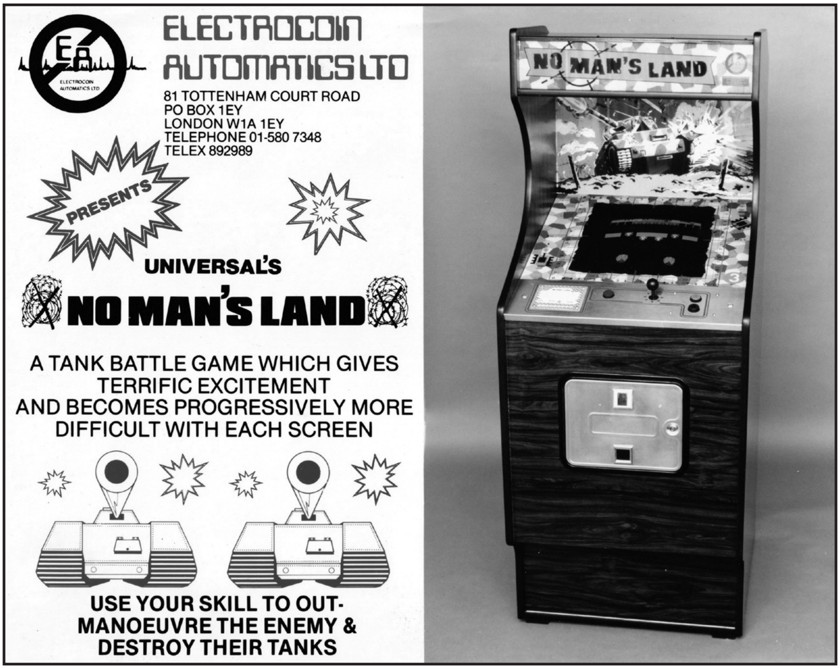
Figure 6.5
Electrocoin's *Space Panic* and *Zero Hour* arcade videogames, built in partnership with Universal Japan. These were among the first of the Electrocoin/Universal machines and represent the beginning of Electrocoin's dominance of videogame manufacture in Britain. Electrocoin.



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USE YOUR SKILL TO OUT-MANOEUVRE THE ENEMY & DESTROY THEIR TANKS

Figure 6.6
Electrocoin's *No Man's Land,* built in partnership with Universal Japan. Electrocoin.

Subelectro—one assumes because of Subelectro's extensive manufacturing capacity and no doubt its generous per-unit commission. In April 1981, Subelectro celebrated its 2000th *Scramble* machine and weekly production of 280 units.[17] Yet while Subelectro made significant profits from legitimate *Scramble* sales, copied and cloned *Scramble* boards soon flooded the market. Subelectro fought a rearguard action against copiers and cloners, using the trade press to assert its ownership and use of the license. But without legal precedent, the war of words against copiers lacked teeth.

By September 1981, the sudden reduction of videogame profitability placed enormous pressure on Electrocoin, who had a strict policy of only dealing in licensed products. Universal were already producing fruit machines in the Japanese market and in an attempt to secure the future of their company, Stergides and John Collinson turned to AWP production. Stergides announced:

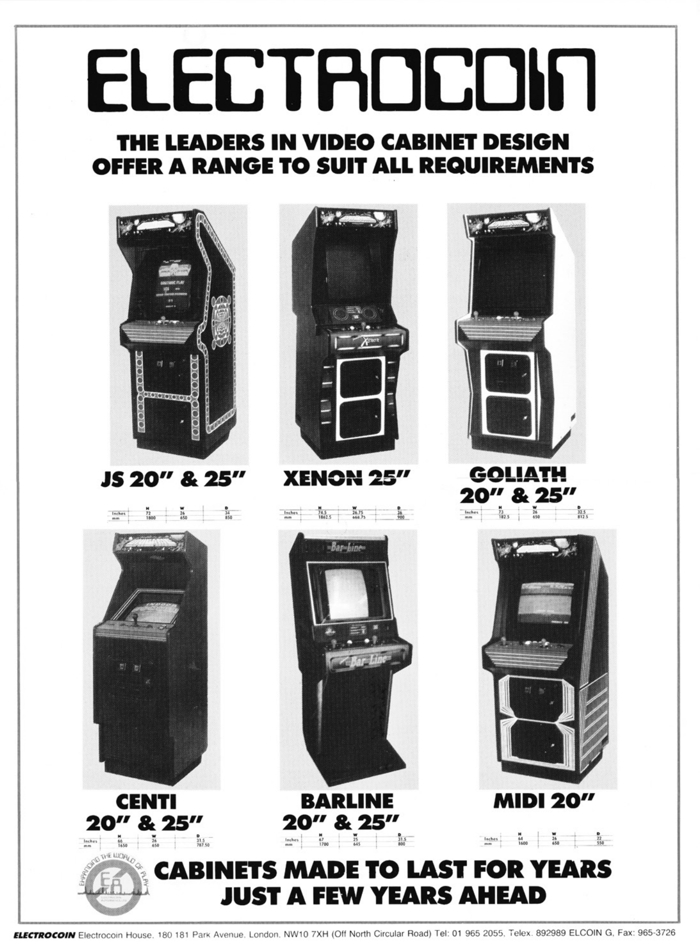

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Figure 6.7
Electrocoin's arcade cabinet range. The iconic Goliath generic arcade cabinet became the backbone of videogame hardware for the British arcade. Electrocoin.

> We are going into fruit machine manufacturing because there are so many video games manufacturers, and if we want to offer high quality machines with a top back-up service we have to increase our price. But we cannot compete with copiers—we build games under licence from original manufacturers such as Universal and Exidy. While we have decided that we will go into fruit machine manufacturing, we will not run down our video game side of the business. We envisage a situation where the two lines can run side by side and represent equally important aspects of Electrocoin. We are spreading our trading base.[18]

The following week, it was announced that Stergides had been appointed Universal's representative in Europe, and the company was willing to pursue copyright action against those copying Universal's *Lady Bug*, making the point that "we are quite prepared to force Britain's first test case if necessary."[19] While there was no legal precedent for copyright protection of videogame code, the impact of copiers on the business was so great that those involved in the videogame industry saw a test case as the only solution.

Defending the Industry

At about the same time, in March 1981, Williams unveiled *Defender*. If *Scramble* was a Japanese manifestation of a side-scrolling space shooter, *Defender*, designed by Eugene Jarvis, was its American counterpart. *Scramble* and *Defender* became the two hot games of 1981, profitable for arcade owners, distributors, and manufacturers alike. Like the trend set by *Space Invaders*, arcades installed banks of both machines. Ruffler & Deith obtained the exclusive *Defender* license, with Colin Mallery playing a key role in the negotiations. Having seen the game at an American exhibition, Bob Deith and Mallery agreed that the game was good. Mallery explained, "We had plenty of competition for it, so we decided to order big,"[20]—he suggested that the total Ruffler & Deith order was for 5,000 Defender machines, and "by ordering that amount we became the sole importer in the UK."[21]

Although in contraction, the market had desire for good games and Ruffler & Deith's distribution reach and manufacturing capacity meant that the company was well placed to fulfill orders quickly. Having recognized the opportunities that supply delays created for copiers (in this case *Defender* cabinets), Ruffler & Deith even manufactured its own standard arcade cabinet and sit-down tabletop version of *Defender*, built by their subsidiary, long established manufacturer, Streets of Eastbourne. The fully licensed machine, containing official boards, was called the *Streets Defender*. This version of *Defender* was a great success in Britain, Mallery explained:

> At the beginning we sold more here in Britain than in America, of course they caught up with us in the end and went miles ahead. But Williams Electronics realized that we'd done a good job. We marketed it. We put it out there. We did lots of free trials. We'd do anything to move the product and it took money so people bought it. Everybody loved it, and it took big money.[22]

Mallery and Deith's proactivity in selling *Defender* was not ignored by Williams: "Bob got a gold watch. I got a round-the-world trip with my wife, Pauline, all paid for by Williams Electronics." Yet R&D's active stock control and maximization could not prevent *Defender* copies from entering the British market. Despite the lack of legal precedent, Williams were not prepared to see their profits cannibalized and so began the first high-profile legal action to protect their British and European rights for *Defender*. On April 18, 1981, Williams took the unprecedented step of printing a full-page warning of legal action against copiers in *Coin Slot*.[23]

With the support of R&D, Williams ordered the removal of copied machines from the London and Blackpool trade shows, seizing twenty-five machines. These steps appeared effective, with Williams noting a "dramatic reduction in the advertising of Defender copies,"[24] and it encouraged other manufacturers to pursue copiers as well, with the ultimate aim of bringing about a copyright test case, and therefore protect the ailing industry. However, the opportunity to instigate legal action did not present itself to Stergides. Unlike some manufacturers and distributors, Electrocoin adopted a strict no-copies stance despite the potential short-term financial benefits they offered, and by doing so, Stergides was increasingly involved in the development and localization of Japanese games for Britain, explaining his reasons clearly:

> I realised that for the video games industry to go forward and expand, the developers had to make a profit to be able to keep their research and development going. When Mr. Do! was released, I was involved in some parts of development, but also Mr. Okada had a lot of input into the game. I decided that I would take action about copies and I am glad that I did it, it did not stop things, but it made things more difficult for the copiers.[25]

Williams' action was the opening salvo of the British campaign of a long, bitter global war against copiers that affected the development of not only British arcades, but also the shape of videogames in the 1980s and 1990s. Before the British *Defender* cases came to trial, an American case instigated by Cinematronics against K Noma Enterprises and Sutra West, which were accused of importing and selling copies of *Star Castle*, was heard. The May 22, 1981, trial noted a modified copyright warning in the *Star Castle* copies, and the judge ruled that "video games are copyrightable as 'motion pictures' encompassing audiovisual works."[26] This ruling established a legal precedent for copyright in videogame code in the US, and news of the ruling suggested that courts in Britain would pass similar judgments. American game developers were now able to rapidly and inexpensively assert copyright of their work, but the same was not yet true in Britain. Emboldened by the Cinematronics ruling, Williams escalated its European antipiracy campaign, and by August 1981, it had seized over 100 *Defender* copies and parts for a further 220 machines.[27]

In November 1981, almost a year after the disastrous Irem UniWar S deal, and with global demand for its machines at an all-time low, Cromptons took drastic steps to avoid bankruptcy. It auctioned its videogame and pusher factory stock, sold the Margate Space City arcade, and attempted to shrink to a skeleton staff and wait it out until market conditions became more favorable. In *Coin Slot*, Jim Crompton explained: "Things have been bad, very bad for us, . . . The workforce has been slashed from around the 100 mark to a mere fifteen and the factory space drastically curtailed. The last year has been the worst I ever remember since I went into the industry."[28]

Yet by December, it was evident that these steps had been insufficient, and Alf Crompton (Amusements), one of the major British electromechanical manufacturers and so instrumental in the development of the British arcade post–World War II, went into liquidation.[29] Cromptons were gone, simply unable to adapt fast enough to the radical pivot to videogames. The company did return some months later, though, resurrected through Jim Crompton Ltd., which Jim had formed in 1964 to pursue his independent ventures. Thankfully, the factory that the Crompton brothers had purchased outright on profits from the *Film Star* and *Derby Racer* games was not lost during this period, and this became a base for Cromptons manufacturing (and remains part of the coin-op industry to this day).

Despite Cromptons' rapid return to the industry, it took many years for the company to recover, which highlights the changing nature of the British coin-op industry. For those who find themselves on the wrong side of a technological innovation or popular trend, the impact can be financial ruin. Cromptons also stressed the resilience of the British industry, and the idea that industry entrepreneurs often find a way back into it. It offers a sense that, much like showfolk, the arcade industry is close-knit and protective, looks after its own, and is accustomed to setbacks. However, in late 1981, Cromptons were not the only company feeling the economic stresses of videogame oversaturation and piracy, and this included those who dealt with the most popular titles of the time.

Copyright *Does* Apply

By the end of 1981, Atari joined the throng, instigating more than ten lawsuits against manufacturers, distributors, and, notably, *operators* of machines infringing *Centipede, Asteroids,* and *Missile Command* copyrights. In a major feature in *Coin Slot*, the Atari representative Shane Breaks explained:

> This is only the beginning of the most sweeping and determined campaign this industry has ever seen against copiers and those who deal with them. Atari is committed to proceed legally against anyone, anywhere, dealing in counterfeit Atari video games . . . the strength of Atari and Warner Communications is squarely behind this war. We are in it for the long haul."[30]

Sega also took action against copiers, eventually becoming the most tenacious and litigious pursuers of copiers, especially around their 1981 hit *Frogger*, which they published under license from Konami. Copiers found themselves subject to an Anton Piller Order, which allowed premises to be searched and evidence seized before trial, without prior notice; and the power of this disruption, perhaps more than the trial itself, concerned copiers. Through 1982, Sega escalated its action against European copyright infringers, working with armed security guards at the Milan Amusements Fair, who secured products apparently in breach of Sega's *Frogger* and *Zaxxon* copyrights.[31] Sega's attorneys took photographs of machines on display, including games in operation and boards inside, as evidence for any later claim. Sega's steps were "the first time an actual order had been served on anyone in the Italian industry during a trade show."[32]

By this point, John Richards of Competitive Video (now called Trolfame) had become audacious and vocal in his marketing of unlicensed conversion kits and close copies. Unlike the anonymous Korean, Japanese, and Italian copiers that telexed offers, Trolfame was a well-known company appearing in the British trade press on a weekly basis; furthermore—and this was potentially his undoing—Richards was cocky, by his own admission. In November 1981, when Sega and Atari ran threatening notices against copiers in *Coin Slot*, Richards accused them of "playing a huge game of bluff,"[33] adding that they were "relying on people having insufficient knowledge of the law."[34] Richards's claims incurred the wrath of Vic Leslie of Sega Europe (and formerly Cherry Leisure/Atari), and in a war of words published in the trade press, the pair duked it out. Leslie responded:

> We do assert that in law copyright exists in both the programmes and the audio-visual effects of video games. We do so having taken extensive legal advice. Accordingly, we consider the legal action which we have taken to be wholly proper and deny any suggestion to the contrary. The orders in question were granted by High Court Judges in whose opinion our action was justifiable. Otherwise, such orders would not have been made. . . . On the basis of the legal advice we have received, we believe Mr. Richards' comments on the state of the law to be misleading and not to reflect current legal opinion.[35]

The battle between Leslie and Richards heated up, and it became apparent that the cockiness had highlighted Richards and Trolfame as prime targets for an overdue British test case. Six months later, Sega acted—it had a High Court injunction served against Trolfame for breach of *Frogger* copyright.[36] Prior to the court case, Richards appeared on a television current affairs feature, where he was interviewed about the realities of being a "one-time microchip pirate." On the video, recorded in Richards's Surbiton workshop, he explained:

> If we wanted to make a direct copy of say this game, all we would do, we'd take one of these chips out, we would place it in a machine like this called a gang-banger enter some keys and copy it into the computer. . . . then copy it back to eight blank memories and then within three minutes they would contain the new programme.

When asked by the interviewer to justify his position as a game copier, Richards referred to the 1956 British Copyright Act. He expressed his view as follows:

> The computer programme that runs the game is machine generated from the very beginning; somebody has the idea, types some instructions into a computer then the computer does lots of work and produces the end programme. . . . We contend that because it is a computer-generated display, a graphics display, it does not fall within that act. The third point they're claiming is the actual design of the little characters that are displayed on the screen. A reproduction of an original drawing that somebody has done in the very early design stages, and I believe that the computer transformation of that picture onto the screen does not fall within the copyright act.[37]

Richards's position might now seem wishfully naive, especially following the American Cinematronics ruling that this was part of his bravura performance, as he was representing himself in the courtroom. He admitted to me that he knew the case was almost unwinnable; instead, his intention was to maximize his conversion and chip sales right up until the court ruling. In July 1982, the Sega versus Trolfame case was heard. In court, Richards maintained that copyright did not apply to videogames, and he had copied various games "as and when demand required."[38] Unsurprisingly, to Richards, Leslie, or the British arcade trade, the judge ruled in line with the US Cinematronics case, and in support of Sega, Mr. Justice Goulding asserted: "On the evidence before me I am clearly of the opinion that copyright under the provisions relating to literary works in the 1956 Copyright Act subsists in the assembly code programme of the game of Frogger."[39]

With a court ruling asserting that copyright applied to videogames in Britain, Sega and other manufacturers changed their focus from pursuing those manufacturing and distributing copies to include operators as well. In August 1982, a consortium including Sega and Taito Electronics passed an injunction to seize machines from a copier, but also the Old Bell Inn public house in Hemel Hempstead, where an infringing machine was sited.[40] At the same time, the repercussions of the Trolfame case developed: in November 1982, when Richards refused to disclose the details of *Frogger*-copy customers to Sega, Leslie applied to the vice chancellor to have Richards imprisoned and his company's assets seized for contempt of court.[41] Vice Chancellor Sir Robert McGarry was offered further opportunity to comply, but it was evident that customers had already become uncomfortable with the legality of buying copied chips or conversions, and the information Sega sought did not exist. *Coin Slot* reported on the case:[42] "Under cross-examination by Sega's counsel, Mr. Graham Shipley, Mr. Richards said that for the last 12 months his customers had decided they did not want the names of videogames on their invoices. Most of his invoices were marked simply '1x conversion.'"[43]

Despite further petitions, Richards could not and did not supply Sega with the customer details, and with the assurance that Trolfame would not trade in copies and with a British legal precedent in place, the case was closed. Richards was fined a total of £250 ($340) for contempt of court, and Sega's lawyers said that the legal costs would be in the vicinity of £8,000 ($10,880).[44] Whatever agreement was eventually reached between the parties (Sega had obtained what they wished, after all—a legal precedent), Trolfame continued to trade until it was formally dissolved in April 1985.

The End of the Videogame Gold Rush

In August 1981, before the Trolfame/*Frogger* case had been heard, a value-added tax (VAT) fraud investigation was just concluding that would have wide-reaching impacts upon the success of Alca. Customs and Excise solicitor Alan Hughes asserted that there had been an "enormous suppression"[45] of gross takings, to the value of £10 million, by a consortium of companies operating seven arcades in central London and one in Blackpool: Piccadilly Amusements, Atlantic Amusements, Family Leisure, JWD Amusements, Aladdin's Castle, Big Game, and F Peeney and Sons, and Martin Bromley of Sega (and Alca) was implicated in the yearlong VAT fraud investigation.[46] The investigation was launched after customs officers became suspicious of the VAT returns from the arcades. Undercover observations by more than 100 officers identified that some of the machine takings had been "skimmed" and the real totals undeclared.[47] However, the case was very quickly and efficiently concluded by those implicated. *The Times* newspaper explained: "The end of the case came yesterday with the presentation of a banker's draft for more than £2m which was paid into the *Bank of England* after verification by a cashier specifically brought into the court."[48] The £2.7 million banker's draft was the largest ever out-of-court settlement for a British VAT case at that point—and that it was concluded in this way spoke volumes about the affluence and influence of those involved.

According to Green, Bromley was placed into custody and his assets frozen for ten weeks while Customs and Excise completed its investigations;[49] the case was widely reported and members of the coin-op industry were aware of it. Alca's financial position was precarious: Martin Bromley, the owner of the company, was Alca's funder, and the company was reliant on this capital—especially in the strained trading conditions of the early 1980s. Green says that at this point, no commercial bank was prepared to lend money to arcade businesses, and with the investigation underway, especially not to any with links to Bromley. The impact upon Alca, which was three-quarters owned by Bromley's Club Specialty, was significant. Green said that it became increasingly difficult to trade, with Customs and Excise closely inspecting any shipments of components that Alca received, which in turn caused supply delays, disruptions, and cancelled orders; some customers did not want to be associated with a company of ill repute.[50]

With Alca isolated and exposed by Bromley's investigation, Sega then struck the decisive blow. In February 1982, Sega Enterprises Japan instigated action against Alca.[51] Sega accused Alca of buying a single *Frogger* PCB from a Japanese supplier and making more than 100 copies that were systematically installed in machines leased to pubs by the Alca Operations division.[52] Sega obtained injunctions restraining Alca from trading in anything that made reference to the *Frogger* trademark. Alca refused to deliver the allegedly copied chips and refused to disclose customer names or locations where the infringing machines had been installed. By May 1982, Alca was awarded the right to withhold the identities of customers and locations,[53] and this proved significant when, in a later hearing, Sega expressed that their thwarted intention was to seek damages from the sites profiting from the copied machines.

Inevitably, the long shadow of Club Specialty and Martin Bromley was felt during the legal process. Ruling at the trial, Lord Justice Lawton articulated Sega's concerns about "a particular individual who controlled a Panamanian company with a substantial financial stake in *Alca*."[54] Their concern was that the person—clearly Bromley, but he was never expressly named—"might be in a position to make it impossible for them to secure any damages that a court might eventually award them against *Alca*."[55] Sega, now owned by Gulf+Western, held the view that Club Specialty would intervene in some way to prevent damages from being secured, but there was some possibility of recouping damages if the operators could have been held liable. At the trial, Alca announced that it had assets exceeding liabilities of about £0.5 million, and that "fears that they would suddenly be put into liquidation by the Panamanian company were somewhat unreal."[56] However, this confidence was misplaced. Club Specialty withdrew its financial support and liquidated Alca. In August 1982, Alca, pioneers of the British videogame industry, who exploited copyright laws but also created pioneering technical innovations, went into liquidation with debts of £2.75 million.[57]

Alca's creditors' reports, circulated after liquidation, painted a stark narrative of sharp industry contraction during 1981 in the wake of the success of *Space Invaders*, when Alca was left with surplus stock and a declining turnover. Two subsidiaries, Alca Operations and Alca Leisure, had been formed to generate income by operating the unsold machines in pubs. The operations division had been advertised as a method of bringing the second wave of videogames to the public, but it became apparent that this was done using copies in an attempt to maintain liquidity and rely less on Club Specialty's capital. Evidently, Alca was using copy *Frogger* boards in its operating arm, and this was what brought the whole venture crashing down. With the legal challenge from Sega and "increasing pressure from creditors,"[58] Green fell ill with stress, and while he was in hospital, the company called in the administrators and Alca was wound up.

With Alca, Sega had claimed a major scalp in the British videogame industry and with Richards, Britain's most outspoken copier; this news sent shockwaves through the industry, making it abundantly clear that British companies openly dealing in copies would not be tolerated. The scale of Alca's trading deficit and the closure of Cromptons exposed the hostile trading conditions that emerged during the second wave of videogames in Britain. For many, the video market seemed entirely unsustainable with distributors, such an essential part of the British arcade ecosystem, which experienced heavy losses on their videogame investments. The pressure caused by the reduced profitability of the videogame market was not only felt by Alca, but other distributors as well, which ended up with stocks of machines that were difficult to shift. Jim Pryde, managing director of London Coin (which was wound down by its owner, Trusthouse Forte, shortly afterward in May 1982), explained, "Trade has been suffering badly. The bottom dropped out of the video games market 12 months ago and we, like many other major distributors, got caught with heavy stocks."[59]

1982—the British Arcade Videogame Crash?

Yet the projection of the end of the videogame industry was disputed by some. John Stergides, managing director of the steadily expanding Electrocoin, which had partnered with Universal, saw the situation as a natural adjustment following "unrestricted dumping"[60] of games in Britain and unrealistic market expectations. According to Stergides, the issue was that machines were being sited in locations that simply could not support them, such as taxi offices, doctors' offices, and work canteens, and consequently, income per machine declined. Stergides's view was that as a result, by mid-1981, British manufacturers reduced their output because they "could not compete with the flock of second-hand machines from the far-East,"[61] and they stopped agreeing licenses in any significant numbers. Yet this reduction of output did little to manage demand and, facing stagnant stock, manufacturers were forced to sell their machines at prices close to that of copies to generate cash flow and return on videogames. Consequently, many cheaply acquired games entered circulation, saturating the market and game takes dropped even further. According to Stergides, by summer 1981, the supply of videogames was "in turmoil,"[62] and by September, game importation into Britain had "dwindled to almost nothing."[63] Don

Last, of Summit Coin, quantified the 90 percent reduction in the market and the change from the boom years: "Last year I would have an exclusive on 3,000 to 5,000 [PCBs]. Now you can knock off a nought."[64]

Unprofitable machines were gradually removed from circulation, operators stopped siting new machines, and some operating companies abandoned videogames or closed altogether. While this created desperate conditions for distributors without licenses, for the very best games, it did eventually bring about some degree of stability to game income and sector organization. The market established a new equilibrium with lower videogame profits, and business calculations based upon the new economics still offered opportunities for companies to exploit. Stergides called on the industry to hold the line and not abandon videogames altogether, and that this had happened before: "It happened with pintables and it happened with pool tables. The only difference is that with video games it happened very, very quickly."[65] He also observed, "The boom days are over, and things will now settle down to a sensible business," with videogames returning to being "second-runner to fruit machines in the market."[66] Videogames were now part of the British amusement arcade machine mix, but they sat subordinate to fruit machines once more, alongside pinballs, coin pushers, and kiddy rides.

7 The Invader's Revenge

While the British coin-op industry struggled with the influx of copied printed circuit boards (PCBs) and difficult game licenses, there were others that profited and innovated at the same time. Much of the discussion of videogames focuses upon releases imported from Japan or the US, as this is where the majority of games originated; in the early 1980s, however, Britain had its own emergent videogame development industry. While people like John Richards of Competitive Video used their skills to modify existing popular releases or create games similar to those already available, others imagined more innovative videogames from scratch. The first company to do so was Zenitone, led by John Brookes, Malcolm Mailer, and university lecturer turned programmer Duncan Shortland. In January 1981, Zenitone produced *Invader's Revenge*, which was compatible with the Taito PCB architecture and its 8080 microprocessors which, thanks to *Space Invaders*, were everywhere. Think of the *Space Invaders* hardware as a platform (or even a genre) instead of a specific title—echoing the British industry's general consensus of *Pong* as the tennis-game craze. *Coin Slot* detailed the new game as follows: "Zenitone have added many extra features, including a fuel gauge with a refueling sequence involving docking with the mother ship. Invaders drop down and steal sections of the fuel and take it to a waiting spaceship. When the ship is fueled, it can move across the screen and fire rockets at the defending rocket base."[1]

Invader's Revenge was distributed by the Game World Group, a videogame manufacturing, distribution, and operating company owned by Freddy Bailey. *Invader's Revenge* sold exceptionally well during early 1981, with more than 2,500 machines being produced,[2] and the income enabled Zenitone to invest in "highly sophisticated computer equipment" and expand their capacity for software development. While the *Invader's Revenge* license was obtained by Game World Group, Zenitone later partnered with fellow British videogame developers Zilec, who were well connected internationally and able to facilitate international videogame distribution deals. Importantly for Zenitone and other developers making games in the increasingly depressed British market for distribution and manufacturing, Zilec were able to get its British designed games considered in the large American and Japanese markets.

Zilec was formed in Burton-on-Trent by former Associated Leisure staff Norman Parker and Dave Swift, who both had electronics backgrounds and saw the opportunities of videogame development. In June 1981, Zilec unveiled its first arcade videogame, called *Enigma II*. It was an ambitious and accomplished five-stage space game built on Taito's *Space Invaders* architecture. A *Coin Slot* feature described the game's complexity, including an attacking phase, enemies to be killed or avoided, a saucer that needed to be hit four times, and a shuttle-docking sequence.[3] Perhaps most important for the development of the British videogame industry, Parker and Swift were joined by John Lathbury and Chris Stamper and, when the company expanded, by Stamper's brother Tim. The Stamper brothers later went on to form the esteemed home computer videogame developer Ultimate Play the Game, creating iconic games for the ZX Spectrum, including *Jetpac* and *Knight Lore*. Later still, the brothers formed Rare, the first external developer to be bought by Nintendo, and made some of the best-loved games for the Super Nintendo Entertainment System (SNES) and the N64, such as *Donkey Kong Country* and *GoldenEye 007*, before eventually being purchased by Microsoft.

Zilec (and the Stampers) created a direct link between arcade videogames, home computers, and contemporary videogame culture, and to some degree the mythic arcade as well. The developers of coin-op videogames were also often working on home computer versions—and the blend between arcade and home play was significant. Although the arcade machines dominated in terms of their graphical capabilities and processing power, home versions were pale but accessible imitations. Home computers offered different kinds of experiences: longer, deeper, and more intimate play, which were prohibited by the short-duration, pay-per-play economics of the arcade. Arcade games were about public play, scoreboards, and spectacle, while home games offered a deeper, individualized experience.

Zenitone were experimental and entrepreneurial with the new technology. In January 1982, they created a national television ad for Topex acne cream (see figure 7.1), made using their software code, running on *Space Invaders* hardware. In the ad, a tube of Topex floats down the screen shooting spots, with the slogan "TOPEX ACNE LOTION FIGHTS FACE INVADERS."[4] In the same month, the company unveiled a video bingo Amusements with Prizes (AWP) machine and a pinball reconditioning and sales service, and it announced that it was working on its next videogame. The game was *Checkman*, which was notable for being licensed and exported in Japan. Soon after the release of *Invader's Revenge* and its foray into television advertising, Zenitone offered microchip-controlled fruit-machine reprogramming services[5] and created *Video Bingo*, a videogame AWP.[6]

So, while some of the money spent on home videogames inevitably reduced the take of arcade videogames, the disparity between the arcade and home gaming experience was strongly in favor of the arcade. I played home versions of arcade videogames routinely, but the long loading times and disappointing gameplay made the machines in the arcade less than a mile from my house were always the more attractive proposition. For me, the home computer did not replace the arcade videogame and wider arcade experience but supplemented it. At home, I played the best games on that platform, whether on my Commodore 64 or my friend's ZX Spectrum or BBC Micro. Had I not lived so close to an arcade, things may have been different.

In September 1982, Zilec displayed a new videogame, *Blueprint*, designed by the Stamper brothers, at the Japanese Amusement Machine Exhibition in Tokyo.[7] Although relatively unknown in British arcades, *Blueprint* compares favorably to many other games of the time. The screen is split into three horizontal sections. The top part displays a woman (Daisy Damsel) being chased across a rooftop by a purple, Muppet-like monster (Ollie

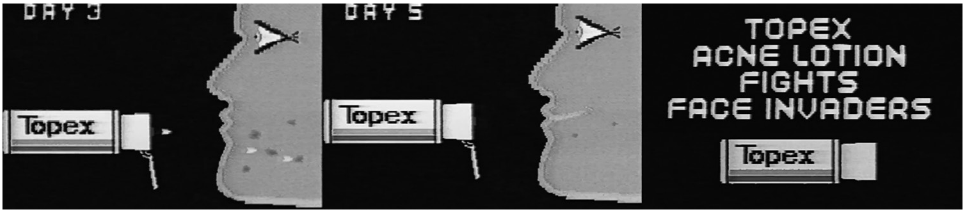


Figure 7.1
Zenitone's *Space Invaders* technology—using Topex acne cream television ad, 1982. Produced for Tele-An Productions Ltd. The Topex acne cream tube shoots spots on a pink face; after five days, many spots are gone and the face is happy.

Ogre), looping left to right. As the chase goes on, the protagonists occasionally knock flowerpots loose, which clatter down the screen to the sections below. The middle section contains several garden sheds and workshops, separated by a maze of hedging, and beneath this, the bottom section contains a blueprint for an antimonster contraption laid out on the ground. The player controls JJ the inventor, who must enter the workshops to find parts of the machine to be dragged onto the blueprint, all the while avoiding the falling flowerpots and booby-trapped components. Once all the parts have been placed on the blueprint, the machine can be activated and, with careful aim, the monster killed. *Blueprint* is frenetic, colorful, and fun—an excellent arcade videogame. The game was snapped up by Midway for the American market, where it did well, and was also licensed by Japan Leisure for its home market. CBS Electronics released an Atari 2600 version of *Blueprint* in 1983.

In September 1982, the two Burton-on-Trent-based videogame development companies, Zenitone and Zilec, collaborated to release "an entirely new British video game," built to work on the popular *Galaxian* and *Scramble* board set.[8] The game, *Checkman*, was exported to Japan, where it proved popular. The player controls the titular Checkman, who walks around an environment covered in yellow squares. Some of the squares contain bombs with visible timers that must be diffused, skulls and crossbones that cause death on contact, and boots that stomp around the screen in random patterns that risk squashing Checkman. John Brooks of Zenitone was keen to point out, "Normally it is the Japanese who sell to us,"[9] and, as the game designers were conscious of the risks of piracy, Checkman required additional audio hardware that came bundled with the PCB, and Teleplay Leisure of Altrincham threatened legal action against any copiers. *Checkman* was a reasonably successful game, performing well in Japan, but it did not sell in particularly large numbers in Britain.

Now working in collaboration, Zilec-Zenitone became Britain's leading arcade videogame development house. There were other notable videogame developers, including the Oldham-based Century and Subelectro. Zilec-Zenitone built a reputation for software innovation and willingness to work with the small but growing community of British videogame developers, and it was able to compete globally on the coin-operated videogame market for some time. Zilec's *Blueprint*, *Enigma II,* and *Checkman* generated considerable international interest, far more than they received in Britain, but it was another game that Zilec represented—*The Pit*, created by Andy Walker's Bridlington-based AW Electronics—that offers the most interesting perspective on the British contribution to the golden age of videogames, and an account of what may be the first British videogame to be successfully licensed in Japanese and North American arcades and converted to the growing home handheld market.

Blowing Up Dragons in the Pit

Andy Walker describes himself as a pinball fanatic.[10] He grew up in the northeast seaside town of Bridlington, close to Scarborough, where he spent the summer playing in Joyland and John Ling's seafront arcades. By his own admission, arcades were important to him, and that "the seafront was my stamping ground."[11] After school, Walker joined the Merchant Navy as a radio operator and then took a job at Government Communications Headquarters (GCHQ), Britain's military intelligence agency. Walker spent ten years in GCHQ surrounded by sophisticated equipment used to intercept and process global communication signals and witnessed the process of increasing computerization. Walker explained, "I was starting to notice proper microprocessors. I was an oik amongst some very clever people (senior scientific officers aplenty at HQ), but I couldn't convince them to send me on programming courses."[12] He became fascinated by the thought of using those high-end microprocessors to make games, but perhaps unsurprisingly, national security came first, and he did not find anybody at GCHQ who shared his vision. Walker explained that there "was absolutely no correlation between government and games. I knew that games would be fun but got completely blank looks whenever I mentioned the possibility of programming them."[13]

By serendipity, Walker was assigned to a GCHQ post in Scarborough, close to Bridlington, where he saw an opportunity. He decided to leave military intelligence and become a caterer, running a seaside café in Bridlington that was full of tourists during the summer but empty out of season. But this apparently jarring jump from snooping on radio signals to serving cups of tea enabled Walker to pursue his interests in microprocessors and videogame development. Walker explained, "Autumn, winter, and spring, I spent my time planning video games: machines, components and programs—everything."[14] Southcliffe Amusements, a small arcade, was close to Walker's café, and he spent time there whenever business was quiet. Here, he noticed the gradual arrival of videogames in the arcade and their shift in complexity as transistor-transistor-logic (TTL) was replaced by microchips, the technology moving from military to civilian applications.

To pay for a Microtan 65 computer kit, an early British microcomputer made by Tangerine Computer Systems, based in St. Ives, Cambridgeshire, Walker founded AW Electronics, manufacturing and selling electrical components and equipment. The Tangerine computer used the 6502 processor as its primary central processing unit (CPU), the same chip that powered Atari and Exidy microprocessor arcade videogames. Walker built red-green-blue (RGB) monitors, which were still relatively difficult to source, and sold them to the Open University. In early 1981, seeing the sudden growth of videogames and encouraged by his wife, Walker sold the café and set up a small factory "to write games and build the electronics and the cabinets and the artwork."[15] He began to build arcade machines, making the components; however, it soon became apparent that he "could make better progress by just designing and writing" the code.[16] Now focusing on software alone, Walker was joined by Andy Rixon and Tony "Gibbo" Gibson, and together they set about designing arcade games.

The first game that the new AW Electronics development team worked on was a scrolling space game called *Andromeda*. While coding it, they encountered a bug: the spaceship's tail fin duplicated across the screen and was burrowed into by pushing left or right on the joystick. Walker recalled, "Wow, there's a game there, we exclaimed, and carried on developing Andromeda."[17] *Defender* appeared in Southcliffe Amusements while AW Electronics was developing *Andromeda*, and the game galvanized Walker's sense of the power of videogames. He explains his sense of awe and frustration when he encountered the game during the summer of 1981: "I was still writing like crazy when Defender appeared. It blew me away. It's still my all-time favorite game . . . I'd got lots of sketches and mock screen layouts but Defender changed all that. Fly, shoot, kill, rescue—all much faster than our old Andromeda game."

Once the *Andromeda* prototype was completed, Walker and his team moved to a new game that utilized the tail fin bug that they had found so interesting, and this game was heavily influenced by the British sci-fi horror television series *Quatermass and the Pit*.[18] In the series, broadcast in late 1958, Professor Quatermass discovers evidence of an ancient alien civilization deep in a postwar excavation pit in Hobbs Lane, London. The program became a cult classic, terrifying a generation and remembered fondly by many, including Walker. When thinking of ideas and a name, Walker's team were in agreement: "It had to be *The Pit*, from the very early days of its development."[19]

According to the game's instructions, the objective is to dig down to the bottom pit and collect at least one large jewel, and then return to your spaceship through another cavern and escape. However, while many games of the time place you as a heroic defender, in *The Pit,* it is evident that you are the invader. As the game begins, you land your spinning flying saucer at the top left of the screen. You descend and use a kind of laser blaster to burrow through the ground, creating a tunnel. As you dig, you must avoid enemies and falling rocks that will squash you, and you must do this before the Zonker laser-tank shoots its way through a mountain and destroys your spaceship. The Zonker shoots with a constantly audible "thump, thump, thump." With *The Pit* prototype complete, Walker booked space at the London Hammersmith Preview coin-operated trade show, held in October 1981, joining the throngs of American and Japanese videogame and AWP manufacturers, distributors and operators. Hastily creating a hardware carousel system called *Master Blaster* so that all of AW Electronics' games could be demonstrated on the *Tangerine* hardware, Walker recounted: "I shoved all the prototype hardware and cabinets into an old Nissan van and rocked-up at the Preview Show in Hammersmith. We showed I think the first-ever video game jukebox with *Andromeda, The Pit* and *Hunter*."[20]

In *Coin Slot*'s review of the exhibition, Walker boasted that none of the games available for *Master Blaster* would be "either copies, licensed or re-writes,"[21] and the compact system was presented as a new platform. While operators were impressed by the machine's compact, 2-square-foot form-factor, ideally designed for smaller arcades, some grumbled that the game selection screen would become a distraction and might reduce machine income. Perhaps operators thought that people would play the selection screen and not the games? The exhibition was busy, and Walker demonstrated the games "to everyone who showed an interest,"[22] including a group of Japanese businessmen, who were particularly focused on *The Pit* and wanted to see the later stages of the game. Walker explained that *The Pit* was still in prototype form, and the final cavern had been planned but not yet written:

> It involved doing battle with the end-of-game Dragon. It was all planned. It was necessary to pick up flint and by striking the flint you could blow up the Dragon. So I was explaining the finale to the businessmen and specifically described "blow up the Dragon"—not *kill*, *slay* or *outwit* the Dragon, but *blow it up*.[23]

While it was encouraging to see attention from potential Japanese buyers, Walker's focus was on meeting with Zilec and their American publishing connection, Centuri. The London Hammersmith Preview was a critical springboard for AW Electronics: it had shown an almost complete machine and, despite clearly being a small company using inexpensive equipment, with no flyers or banners, had received lots of interest. The most important visitor was Norman Parker of Zilec, who asked both technical and business questions and introduced Walker to Joel Hochberg of Centuri, an American videogame publisher based in Miami. Hochberg and Parker saw potential in the prototype games, and Hochberg offered to site-test them in Miami, with the prospect of licensing the games for American distribution. Hochberg advised Walker to register copyright for *The Pit* in the US immediately (it was five months after the Cinematronics copyright ruling) and paid for Walker and the original *Tangerine* hardware to be flown to Miami and tested at the Fontainebleau Miami Beach arcade that he managed. Walker's copyright for *The Pit* was submitted in December 1981 with the registration confirmed in March 1982 (PA0000134700). The Miami site tests were a success, for *The Pit* at least, with Walker recalling that "word spread and queues started to form in the Fontainebleau Miami Beach gaming hall—we'd made it and we knew we'd made it."[24]

Reassured of its potential, Centuri were keen to secure the distribution license for *The Pit*, but having seen the response to the game in Miami, Walker pushed for a better deal: "A typical royalty at the time was $35 or $50 (£26 or £52) per board for a hit game. I asked for, and got $130 (£96). I was absolutely on cloud nine."[25] The terms of the deal required the game to be ported to Centuri's more powerful Zilog Z80 CPU hardware that fueled Namco boards, but Walker and the small AW Electronics team happily agreed. This porting was completed by the Stamper brothers from Zenitone, and under very fast time scales. However, according to Walker, disaster struck: "One day, a very legal letter arrived from Atari which essentially said that they were going to sue-my-ass."[26] It transpired that Atari had obtained the rights to distribute *Dig Dug* from Namco and were accusing AW Electronics of copyright infringement, even though this was the first

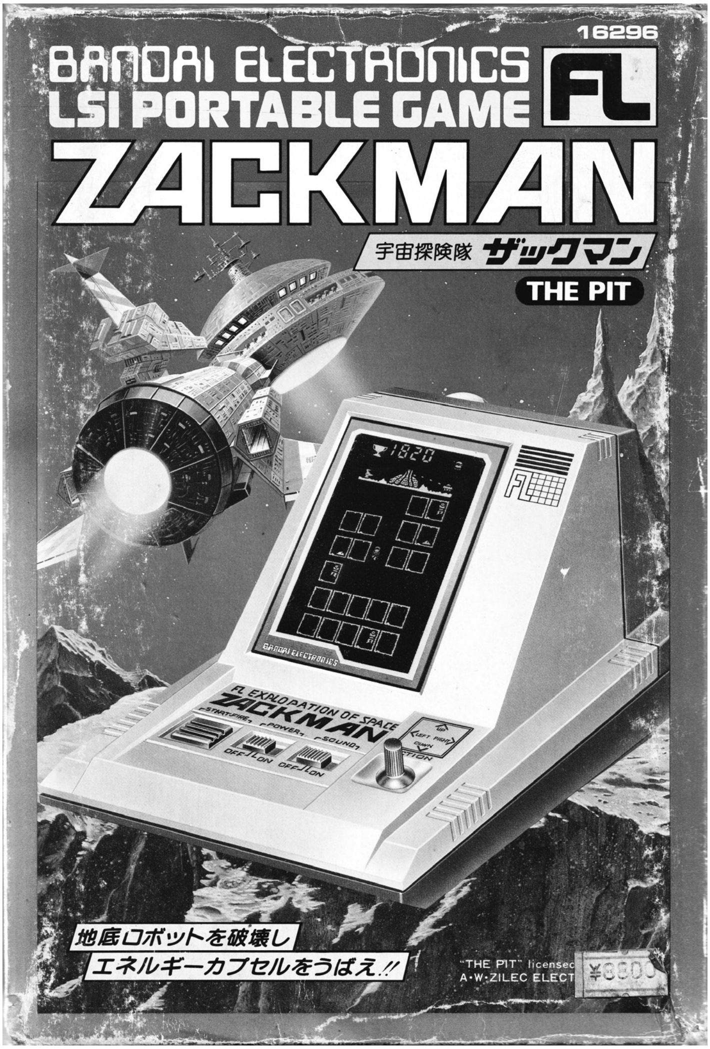
Walker had heard of the Namco/Atari game. In an attempt to make sense of the strange situation, Walker remembered the Japanese visitors who had shown such interest in *The Pit* at the Hammersmith show. Walker reasoned: "If you've played Dig Dug, you'll have seen the totally bizarre manner in which they dispatch the Dragon—they attach a stirrup-pump and blow it up, it expands, boom, explodes."[27]

His view is that the London Hammersmith Preview visitors had copied the game, implementing not-as-yet-coded elements of the game, but had done so via literal translation. *Dig Dug* features all elements of *The Pit*, from burrowing to falling rocks and fire-breathing dragon enemies, but instead of being blown up with explosive dynamite, they are blown up with an inflating stirrup-pump. Whatever the origin of the claim, the reality was that AW Electronics were now facing legal action from Atari, and despite the excellent per-PCB commission being offered, did not have the legal defense funds. Furthermore, the Centuri deal would be void if legal action was looming. Thankfully, Walker had copyrighted *The Pit* under Hochberg's advice, and had done so three weeks before the date on *Dig Dug*'s equivalent paperwork.

With the substance of Atari's claim negated, Hochberg and *Centuri* continued promoting and selling *The Pit*. The game was ported onto the Z80 and sold well, reaching the top 10 of the US *Billboard* charts for several weeks. Taito obtained the Japanese license, marketing it as *Zackman—The Pit* (lacking the wider cultural reference to *Quatermass and the Pit*). Later in the year, Bandai Electronics was in discussions with Zilec about the production of a handheld LCD, or more accurately FL (fluorescent lamp), version of *The Pit*. Walker explained that Hochberg believed "that it was perfect for the emerging hand-held LCD game market."[28] In October 1982, it was announced that Bandai Electronics' negotiations with Zilec were proceeding well, and "it is confidently expected that the deal will involve hundreds of thousands of the hand-held units."[29] However, as Walker put it, consumer electronics was "a world away from coin-op, and we all struggled to get to grips with that market." Walker recalled "following massive investment, my legal team was in Miami and the twenty-seven-page contract with *Bandai* was on the table, but before I got there to sign it, they'd decided against *The Pit* and licensed something else."[30] It was assumed that Bandai chose to license Sega's *Zaxxon* instead.

While this is Walker's position on the deal, it doesn't entirely ring true. Bandai *did* produce a handheld FL version of *The Pit*, or rather its Japanese title *Zackman—The Pit*, but it isn't clear in what quantity the game was made. It was certainly produced in sufficient numbers to be released in North America under the Tandy label. A notice on the front of the box and a sticker on the rear of the machine in some versions clearly states "The Pit licensed by A.W. Zilec Electronics Ltd.," an amalgam of AW Electronics and Zilec. Despite this, Walker never received any royalties and was convinced that the handheld had not gone into production until I sent him photographs of a copy of *Zackman—The Pit* that I had bought from Japan (see figure 7.2).

The arcade version of *The Pit* was released in Europe as an upgrade kit for *Galaxian*-type boards. Aware of the depressed nature of the British market, Walker was content with whatever sales that occurred as "they were licensing it rather than ripping it off,"[31] and Zilec's Stamper brothers did the conversion. Walker joked that back in Britain, "*The Pit* turned up in many, many, arcades, some of which were legitimate boards."[32] The commission on American board and European conversion kit sales was excellent, even more so as AW Electronics consisted of four people: Andy Walker, his wife, Josie, Tony Gibson, and Andy Rixon. After the sizable costs had been repaid, AW Electronics invested in professional development tools and began to refocus on the home computer market. Of the promised nine games that were planned for the Tangerine/6205-based *Master Blaster,* only the three games previewed at Hammersmith reached commercial release; *Hunter, The Pit*, and *Andromeda*. A fourth reached the prototype stage—*birdsEye bomber*, which Walker described as a "bomber game with primitive zoom-in."[33] Then working with Chris Stamper on the Z80 hardware, Walker produced *Stamper* (without realizing this was Chris Stamper's surname), described as "a sideways multilayer scroller—courier/delivery game," where the player had to avoid being stamped on by enemies. AW Electronics shifted focus to the home computer market, trading as Taskset. One of the first games that Taskset released was *Dig Dog* for Tangerine's Oric-1 home computer. The game was a rebuilt home computer version of the original *Pit* prototype, renamed in a swipe at Atari/Namco. While *Dig Dog* is largely forgotten, its antagonistic naming and style in many ways captured the character of Taskset, releasing innovative and challenging games. *Dig Dog* was Taskset's sole Oric-1 release, but the company produced several iconic games for the Commodore 64, including *Cosmic Convoy, Super Pipeline*, *Seaside Special,* and *Bozo's Night Out (see figure 7.3)*. Walker eventually moved from videogame production to the design and manufacture of fruit machines, which he still does to this day.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OFF ON
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地底ロボットを破壊し
エネルギーカプセルをうばえ!!
"THE PIT" licensec
A·W·ZILEC ELECT
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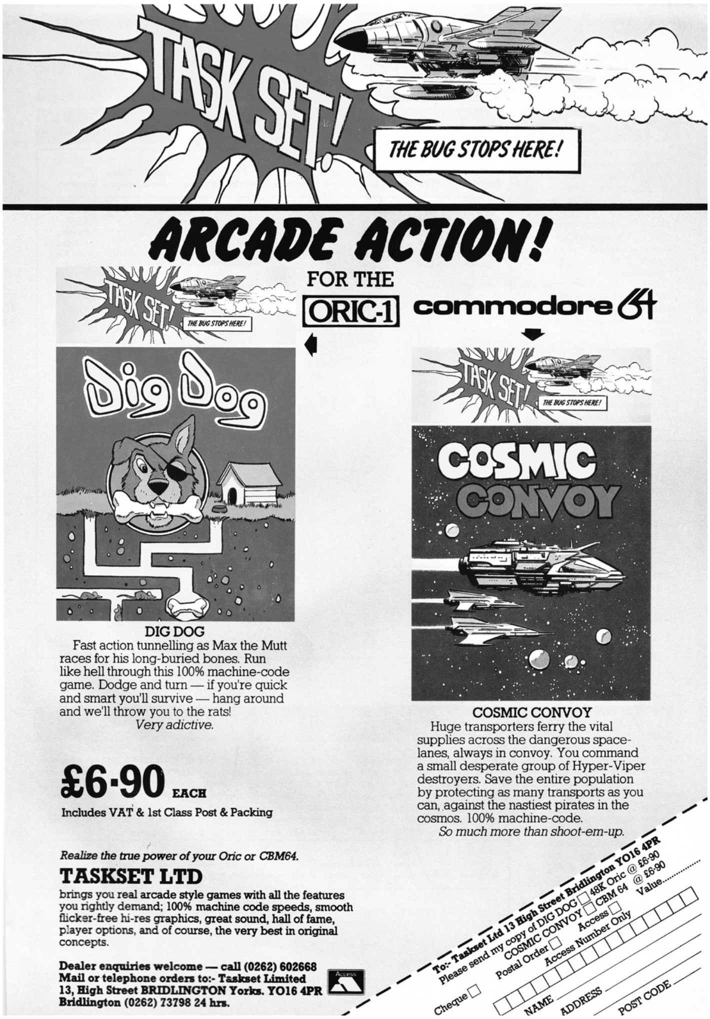
Figure 7.2

Bandai's *Zackman—The Pit* handheld game. A Japanese conversion of AW Electronics' *The Pit*. AW Electronics' managing director, Andy Walker, wasn't aware that the system had gone into production. Author's collection.



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Access Number Only
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NAME
ADDRESS
POST CODE

Figure 7.3

An ad for Taskset's *Dig Dog* and *Cosmic Convoy*. Author's collection

He also retained a working relationship with the Stamper brothers as Rare became an important part of the British, and then international, videogame industry. Walker designed and coded Rare/Milton Bradley's *1990 Nintendo Entertainment System* game, *Digger T. Rock: Legend of the Lost City*.

Zilec-Zenitone was not the only British videogame manufacturer in the early 1980s. Century Electronics was notable by the quantity and quality of their games, although many of their games appeared similar to others made by other companies, such as *Cosmos* (1981), which resembles *Astro Blaster; Dark Warrior* (1981), which looks like *Scramble*; *Logger* (1982), which looks like *Donkey Kong;* and *Space Fortress* (1981), which is an *Asteroids* clone, but in color. However, Century also created original games on a par with those produced by Zilec-Zenitone; most notable is the run-and-jump platformer *HunchBack* (1983), where the player must control Quasimodo to overcome screen after screen of obstacles to eventually reach Esmeralda. *HunchBack* is notable for its use of speech synthesis, telling the operator, "game system operational" and having Quasimodo give a gurgling cry when he (inevitably) plummets from the ramparts. The game did well in the arcade, but in January 1984, Century Electronics went into administration (it subsequently sold the rights for *HunchBack* to Ocean). Under Ocean, *HunchBack* fared far better on home computers with ZX Spectrum, Amstrad, Commodore 64, and BBC Micro (although the legitimacy of the BBC Micro version is disputed).

The relationship between home and arcade games continued to blur from the early 1980s onward, with many home computer games being released that stressed their arcade credentials—or simply copied games directly. On December 1, 1981, Acorn Computers Ltd.'s BBC Micro was released, becoming one of the most iconic British computers of the time (as detailed extensively by Alison Gazzard). In 1982, the BBC aired a television show called *The Computer Programme*, which taught viewers how to use their BBC Micros, and it is estimated that more than 80% of British schools had one of the computers.[34] While the BBC Micro was heavily promoted as an educational system, it also boasted a wide range of arcade releases. Throughout 1982, Acorn's software arm, Acornsoft, released a series of games for the BBC Micro that closely replicated arcade releases, including an unlicensed version of Atari's *Breakout* and Williams' *Defender*. Like Acornsoft's *Breakout,* their copy of Williams' excellent game was even initially titled *Defender* before *Acornsoft* changed it to the less precarious *Planetoid*. Other perhaps less obvious copies included *Monsters (Space Panic), Snapper (Pac-Man),* *Invaders (Space Invaders), Rocket Raid (Scramble), Meteors (Asteroids), Missile Base (Missile Command)*, and *Arcadians (Galaxian)* (see figure 7.4). While the BBC Micro was sold as an educational computer, cementing the British love of home computers instead of home consoles, the availability of high-quality arcade videogames was a primary attraction of the machine.

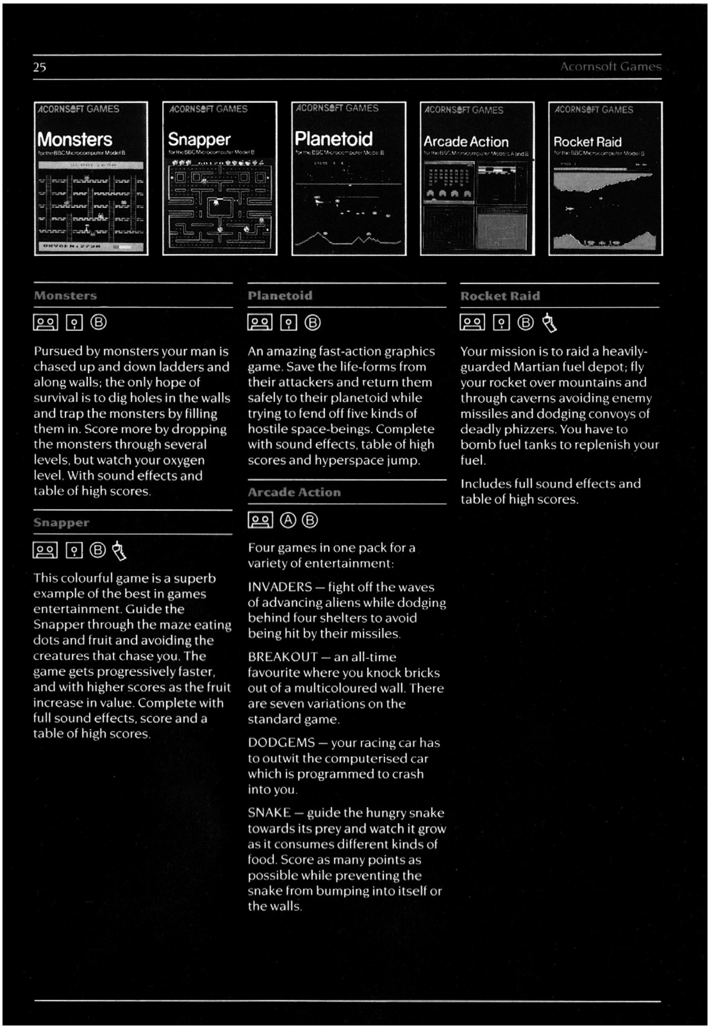
Copies Take Their Toll

The truth was that despite John Stergides's observations of a new videogame equilibrium in 1982, the market remained depressed—a situation certainly made worse by the American stock market crash at the time, which resulted in fewer games being produced by American manufacturers. The British arcade was almost entirely reliant on the importation of Japanese videogames. While many Japanese games entered Britain, they did so in such an uncontrolled manner that distributors like Taito, Ruffler & Deith, and Electrocoin saw their investments dwindle. The prevalence of copies and aggressive sales tactics that had done so much damage in 1981 continued.

But for players, this period didn't feel like a drought; they played the machines. As a result, operators benefited from the availability of inexpensive videogame PCBs on one level but found that the returns on individual games decreased. What happened was a gradual recalibration of the distribution mechanisms, with new and smaller companies stepping in to import, copy, and distribute videogames, and consequently the role of the established distributors became less clear. They were undercut by nimble small traders, who could fold their companies if they encountered issues.

In late 1980, Electrocoin began exploring the use of oversized 26-inch (66-centimeter) monitors in arcade videogames, designing the Goliath cabinet to accommodate the size and weight of such a display.[35] However, while the design, masterminded by John Collinson at the company's Cardiff factory, worked well, it was evident that the inclusion of such a large monitor would make the machine too expensive for all but the largest operators—especially with the market conditions that the industry was experiencing at the time. Instead of abandoning the Goliath design, Electrocoin installed a 20-inch monitor in the cabinet and sold it from February 1983 on, initially as part of a dedicated machine for *Mr. Do!*[36]

While the Goliath cabinet certainly lived up to its name, standing 73 inches (182 centimeters) tall, 26 inches (66 centimeters) wide, and 32.5



25 Acornsoft Games

ACORNSOFT GAMES
Monsters
ACORNSOFT GAMES
Snapper
ACORNSOFT GAMES
Planetoid
ACORNSOFT GAMES
Arcade Action
ACORNSOFT GAMES
Rocket Raid

Monsters

📼 🔑 Ⓑ

Pursued by monsters your man is chased up and down ladders and along walls; the only hope of survival is to dig holes in the walls and trap the monsters by filling them in. Score more by dropping the monsters through several levels, but watch your oxygen level. With sound effects and table of high scores.

Snapper

📼 🔑 Ⓑ 🕹

This colourful game is a superb example of the best in games entertainment. Guide the Snapper through the maze eating dots and fruit and avoiding the creatures that chase you. The game gets progressively faster, and with higher scores as the fruit increase in value. Complete with full sound effects, score and a table of high scores.

Planetoid

📼 🔑 Ⓑ

An amazing fast-action graphics game. Save the life-forms from their attackers and return them safely to their planetoid while trying to fend off five kinds of hostile space-beings. Complete with sound effects, table of high scores and hyperspace jump.

Arcade Action

📼 Ⓐ Ⓑ

Four games in one pack for a variety of entertainment:

INVADERS — fight off the waves of advancing aliens while dodging behind four shelters to avoid being hit by their missiles.

BREAKOUT — an all-time favourite where you knock bricks out of a multicoloured wall. There are seven variations on the standard game.

DODGEMS — your racing car has to outwit the computerised car which is programmed to crash into you.

SNAKE — guide the hungry snake towards its prey and watch it grow as it consumes different kinds of food. Score as many points as possible while preventing the snake from bumping into itself or the walls.

Rocket Raid

📼 🔑 Ⓑ 🕹

Your mission is to raid a heavily-guarded Martian fuel depot; fly your rocket over mountains and through caverns avoiding enemy missiles and dodging convoys of deadly phizzers. You have to bomb fuel tanks to replenish your fuel.

Includes full sound effects and table of high scores.

Figure 7.4

An Acornsoft software brochure featuring the company's arcade game clones and copies. *Monsters (Space Panic), Snapper (Pac-Man), Planetoid (Defender), Invaders (Space Invaders), Rocket Raid (Scramble)*. Author's collection.

inches (81 centimeters) deep, because it had been designed to tolerate a large, heavy monitor, it was exceptionally robust—more so than any other cabinet readily available on the market. In addition to its robustness, the Goliath featured Electrocoin's Unigame system and its version of the Japanese Amusement Machine and Marketing Association (JAMMA) connection standard, which allowed operators to quickly and inexpensively change game boards. Furthermore, Electrocoin advertised competitive bundles for the latest games and was already emerging as a prominent and preferred British videogame distributor for Japanese manufacturers. The Goliath became the single most common videogame cabinet seen in British arcades, with a production run well into the 1990s. British arcades were dominated by rows of Goliaths, with some arcades featuring scores of the machines, each fitted with a different game board and marquee. The Unigame system was eventually superseded by the Japanese JAMMA connection standard, although Goliaths included both connectors.

In February 1984, Kenzo Tsujimoto, the former president of the Japanese videogame manufacturer Irem (who had made *UniWar S*—the distribution of which had so badly damaged Cromptons) founded a new company called Capcom, based in Osaka and Tokyo. A year later, Capcom had sixty employees and had produced four videogames in quick succession intended primarily for the Japanese market: *Vulgus*, *Sonson*, *Higemaru*, and *1942*. Regarding Capcom's first year of game development as calibrating the company's working practices, Tsujimoto saw 1985 as the year of international expansion and began marketing their games to European companies.[37] In March 1985, Capcom appointed the Luton-based JP Leisure as its European agent, who in turn awarded joint British distribution rights to Deith Leisure (the new name for Ruffler & Deith as of 1983) and Electrocoin. Capcom's games were excellent, and its *Commando* was immensely popular, selling more than 15,000 PCBs by early June 1985.[38] Capcom's games were part of the more restrained return of videogames to Britain, sited more sparingly and generally in arcades. At first, the British approach to distributing Capcom's games appeared strained, with JP Leisure announcing its intention to sell some of the games directly and issue other games to its distributors, starting with *Ghosts 'n' Goblins*. It clarified, "We may sell to distributors, but we will not actually appoint distributors."[39] It was evident that JP Leisure had control over Capcom's releases and were prepared to exploit this position. This could be a reflection of the need to avoid uncontrolled saturation, as had been seen three years earlier, but it also looks like JP Leisure capitalizing on the license they had been issued and retaining distribution of the very best Capcom games. But while British piracy had been thwarted by recent court cases, it had done little to stop the international trade in copies.

The End of Videogames in Britain

The early 1980s were an especially difficult time for British manufacturers and distributors. In July 1984, Taito Electronics (who in September 1982 had become Taitel Electronics), became the latest videogame distributor to go into receivership. Like that of Alca some two years earlier, Taitel's closure came as a shock to the industry—after all, Taitel had profited from the *Space Invaders* boom.[40] Unlike Alca, Taitel's closure was only temporary, and a London-based company called Fairfax revived Taitel with a £500,000 investment.[41] This occurred as the industry was returning to some level of stability, and former Alca managing director Mike Green, back from working in the US, became Taitel's sales and marketing director. He described Taitel's situation in 1985 thus: "The sales department was losing money and morale amongst the salesmen was very low. Also, the customer list was not very large, as the company really did not have any good machines to sell. I was the sales director and soon set about finding new agencies and of course expanding the customer base."[42]

At this point, PCBs and generic arcade cabinets such as the Electrocoin Goliath now dominated the videogame market. Operators did occasionally buy dedicated arcade cabinets, such as *Space Invaders*, but with the life span of an arcade videogame so unpredictable, they preferred to swap boards in and out of generic machines as demand required. It became common practice for arcade cabinets to be reused with other games; sometimes the livery would be covered by stickers or repainted, but often British arcades contained machines that mismatched the game and artwork on its side. The marquee on the machine became dominant in determining the game you were playing, and many arcades were filled with rows of Goliaths.

In July 1985, still facing heavy losses from copiers, Electrocoin's John Stergides wrote an open letter to the president of the Japanese videogame trade body, JAMMA. In the letter, he railed against "the copiers, the pirates, the parallel exporters and, most damaging source of all to the European market, the 'Japanese trading companies,'"[43] which he accused of dumping PCBs cheaply to Europe before official distributors even received stock. The parallel importers were exploiting the delays between Japanese game release dates and their eventual release in Britain. Stergides accused Japanese exporters of "releasing 'second-hand boards' within three or four days of the official release."[44] Ultimately, Stergides called for greater control and cooperation between JAMMA and British distributors to avoid stock-dumping in Britain and protect what still remained a major market. He warned that the once-lucrative British and European videogame markets were now teetering close to collapse, finishing with the observation, "Saturation of our market by a game leads only to boredom on the part of the player and the loss to the video games industry of that player. That means decline."[45]

The depressed state of the British coin-operated videogame market and the directness of Stergides's open letter gained attention in Japan. In October 1985, a summit was called between JAMMA and key members of the international trade during the first day of the Tokyo Amusements Exhibition.[46] The British delegation included John Stergides from Electrocoin and Bob Deith of Deith Leisure, joined by Gerald Steinberg of the Irish Joyland Distributing and representatives from the West German Nova Apparate and Atari, Taito, and Data East America. The summit was led by Masaya Nakamura, president of Namco, and senior members of JAMMA, who promised to make the British trade concerns of release dates, secondhand board sales, and copying a top priority in the coming year.

The summit allowed members of the British industry, such as Stergides, to articulate their position to several members of the Japanese videogame manufacturing apparatus. It was evident that whatever was said in the meeting was persuasive and the British delegation impressed the Japanese manufacturers. During the trade show, it was announced that Capcom were opening an American subsidiary and seizing the opportunity to review its international distributorship network.[47] It transpired that Capcom USA's president and sales directors were all former Universal staff, so they were familiar with Electrocoin's contribution to the company's earlier European success.[48] In November 1985, it was announced that Capcom USA would have the authority to appoint British distributors, and when the European rights were reviewed, JP Leisure were not reappointed. In the *Coin Slot* article that announced the sweeping changes, Stergides nailed his colors to the mast, returning to the substance of his open letter and the necessity to protect the European videogame market: "After the change in policy by Capcom which has put it among the leaders in pursuing actively copiers in the Far East and in Europe, we are delighted to be connected with them."[49]

Stergides had proved to be a reliable, direct, and principled member of the British coin-operated industry, and Electrocoin became a well-regarded and preferred distributor for Japanese games. However, while the use of *Coin Slot* as a platform to push an anticopier agenda makes sound commercial sense, Stergides assured me that it was equally motivated by his interest in the videogame medium and willingness to contribute to its development. Instead of seeing his role as being a distributor, he was keen to advise on game content and localization, and in doing so, he built a relationship with development teams in Japan. This interest in game development also transcended the license boundaries of the distribution deals that Electrocoin held. Stergides explained:

> I knew nearly all the developers in Japan and I was helping them to understand the European market needs and demands. I did not mind if they gave their games to someone else, and as I respected their business, this resulted in trust and so we became friends. . . . I was going to Tokyo and Osaka and always spent time with the developers.

Through these actions, Electrocoin soon built visibility among many Japanese manufacturers and developers, and this position only strengthened over the ensuing decade. However, despite the bonds that Stergides built with developers and the assurances made at the summit, challenges caused by copies and parallel imports persisted, at least in the short term. The economic realities can be seen with Konami's *Jail Break* (1986): Electrocoin obtained the exclusive British license for the game and advertised it for £295 per PCB. John Richards, formerly of Trolfame and now running Free Enterprise Games, imported boards from elsewhere in Europe and sold them for £260.[50] Then Monarch Automatics of Birmingham, who also engaged in parallel imports, did the same, offering the game for £250. There was considerable trade outcry at the situation. Who would pay £295 for a new game from an official distributor when the same legitimate product could be bought for £250? Some operators were willing to pay a premium for the aftersales service and sense of loyalty toward an established and trusted supplier like Electrocoin, but the economic prerogatives limited their numbers. The case of *Jail Break* became all the more absurd when it soon emerged that the source of the cheaply imported boards wasn't a

Japanese or Korean clearinghouse, but Konami's official West German distributor. Salespeople at the German company, having overestimated the game's popularity and customer demand, cut their losses and dumped their stock at near-wholesale prices in the British market. Perhaps it assumed that the larger British market might soak up the units, or less charitably, maybe it just pushed the losses to another territory and another salesperson's balance sheet. The German company minimized its losses, or rather it passed its losses on to Electrocoin, but in so doing, it destabilized the British distribution of the game and eroded international business relations.

From PCBs to Dedicated Driving Cabs

While *Jail Break* was an embarrassing example of parallel importation, the general influx of cheap copied PCBs and imports continued to eat into the operating profits of both manufacturers and distributors. While this was a lucrative opportunity for small entrepreneurial companies willing to trade in imports, for established distributors, it simply resulted in a continued disinclination to invest in PCB videogame stock. Manufacturers introduced copy-protection technologies such as Sega's encrypted, battery-powered "suicide chips," which, if removed (or the battery died, much to the chagrin of contemporary game collectors), resulted in an inoperable PCB. But copiers found ways around many of these measures, sometimes creating Frankensteinian kludges of games in the process. Major distributors found other ways to protect their business; they focused on AWPs and videogames that couldn't be copied. An elegant solution was to focus on coin-op machines with dedicated hardware, such as driving cabinets, gun-games, and simulators, which couldn't easily be copied or shipped between territories due to their technical complexity and physical size. Large sit-down simulators were not new to the arcades, with Namco's *Pole Position* (1982), Atari's *Star Wars* (1983), or indeed Mayfield's *Indianapolis* (1969) regular sights, but they now took on greater significance. Operators had once seen them as space hungry, and in the same way that they regarded pinball, saw better returns on multiple upright fruit machines or videogame cabinets in the same space, but the crisis of saturation and cheap, low-return games challenged this view. Operators began to see large, dedicated machines as a way to draw visitors to their arcades, and they became expensive but necessary investments to generate spectacle and novelty—once drawn into an arcade, visitors would spend their money on all the machines.

In 1985, Sega Japan's AM2 arcade division, led by the esteemed programmer and producer Yu Suzuki, created powerful videogame hardware capable of processing the position, rotation, and scaling of hundreds of image sprites simultaneously. While earlier games such as Atari's *Night Driver* and many electromechanical machines gave the impression that the player was driving into the screen, Sega's new hardware delivered the experience in startlingly vibrant clarity. The first game produced on the super-scaler hardware was *Hang-On*, a motorcycle racing game that was built into a cabinet replicating the inputs from a motorbike. The player could steer the bike, turn the throttle, and brake, and because of this, the game just didn't work on any generic arcade cabinet—it required a custom handlebar control assembly, so it was difficult to copy. *Hang-On* was available in two models: an upright cabinet in similar size and scale to an Electrocoin Goliath machine with motorbike handlebars, and also a deluxe variant built into a full-sized fiberglass motorbike with a screen fixed into its front cowl. In the deluxe version, the player straddled the bike and leaned from side to side to steer. The machine detected the rotation of the lean and angled the horizon accordingly; the experience was persuasive and bodily, one of my all-time favorite arcade experiences.

Hang-On became available in limited numbers during summer 1985, exclusively distributed by Deith Leisure in Britain, and the game became a great success and a regular feature of British arcades, especially the spectacular deluxe model.[51] Critically, its dedicated cabinet design and powerful bespoke hardware made it a difficult proposition for copiers. *Hang-On* ushered in the next phase of the British arcade, which relied on fewer and larger videogames and an expansion and diversification of AWPs, including investment in new, complex fruit machines (with complex trail features, such as accumulating lights to unlock mini-games), cranes, and coin pushers.

Over the following months, Sega mastered the super-scaler technology and introduced more powerful hardware that was capable of handling increased numbers of in-game graphic sprites and also implemented suicide chips across their PCB range. The games, *Hang-On*, *Space Harrier*, *Out Run,* and *After Burner*, were spectacular examples of videogame technology, especially in their moving deluxe models. In May 1986, Michael Green gave an overview of the practicalities of the situation, acknowledging that *Space Harrier* was a very expensive piece of equipment:

> The market for the very expensive simulator type games is there if the game has the play appeal . . . A number of operators have reported their income is up as a result of installing Space Harrier, not only income on the new equipment but on the other equipment in the arcades as a result of it pulling people in.[52]

Word of the larger games breathing new life into tired machine mixes spread among operators, and the use of feature machines to make arcades more appealing to families and reinforce income became commonplace. The Sega super-scaler simulators, with their fiberglass sit-down and sit-on motorbikes, sports cars, and spaceships, were among the most desirable feature machines, and Japanese games from Sega, Capcom, and Konami dominated the arcade.

The Japanese yen had been strengthening against the British pound almost constantly, but between July 1985 and October 1986, there was a pronounced jump, with the yen increasing in value by more than a third. For the British arcade industry, so focused on importing products from Japan, the increased exchange-cost of games became alarming, magnifying the cost of the already expensive Japanese-manufactured, dedicated games. A review of the 1986 trade show commented: “The Japanese currency is now riding so high that international visitors to Tokyo last week were rubbing their chins at the horrors their calculators were throwing up as they negotiated deals on games.”[53]

The yen remained at a high level until the end of the decade, and this is the point at which many smaller arcades simply stopped buying new Japanese videogames in large numbers, instead relying on the secondhand machine trade. The larger arcades at the most popular resorts could generate returns on expensive machines, and after games had been operated there for a season, they might be sold on, and the arcades’ machine mix refreshed. The newness of games stopped being such an important factor for British arcade videogames; instead, spectacle dominated. The large, Japanese-manufactured feature games like the Sega super-scaler machines became too expensive for many arcades. In response, Japanese companies expanded their British manufacturing capacity, using the factories owned by Brent Leisure, Electrocoin, and Atari (Tipperary) to build some large simulator games for the European market. These benefited from lower production costs, diminished the impact of the high yen, and sped up the distribution and delivery times. However, the income made on the machines was low when converted back to yen and sent to the Japanese headquarters, and this affected the Japanese view of the British and European markets.

Driving games dominated the Japanese coin machine exhibition in Tokyo in October 1986, including Sega's *Out Run* and Konami's *WEC Le Mans*, and were "considered head and shoulders above everything else at the show."[54] *Coin Slot* editor David Snook offered a telling overview of the videogames on show at the Japanese event:

> While there were around 40 new games shown this year, it was clear that they were split into four broad bands of equipment: 1. high-class dedicated games which were not copiable; 2. games particularly Japanese in character, viz. developed around famous Japanese historical legend—and they never do anything on the international market: 3. A small number of moderate quality games: and 4. The balance made up of games of such inferior quality that it really won't be worth the copiers' time and trouble stealing them.[55]

The message was clear: Japanese manufacturers had refocused on fewer large arcade games for the international market because the counterfeiters could not copy them, and beyond a few moderate-quality PCB games, its focus was on the Japanese internal market. In August 1987, Sega released *After Burner* to wide acclaim from distributors and anticipation from operators seeking the most spectacular internationally suitable feature machine to attract customers. An example of the deluxe version, with a moving, sit-in cockpit, was especially flown in from Japan, and when it hit the arcades, it became the first recommended £1-play videogame in Britain. Following its unveiling, *After Burner* was built in Britain for European audiences. As a shipping manager for Brent Leisure, who were awarded the license to manufacture Sega's games, explained, "It is more cost effective to produce here in Europe to European standards and then utilise the free trade throughout the EEC countries than to put it on the boat as freight. We can ship into Germany in 48 hours. It would take at least five weeks from Japan."[56] Sega's Vic Leslie made the point more clearly: "No-one's going to want to pay £15,000 for an air-freighted After Burner, no matter how good it is!"[57]

In a few short years, arcades had once more changed their machine mix, this time in response to saturation caused by inexpensive copied machines and defensive maneuvers by Japanese manufacturers and British distributors. Arcades installed large, high-cost, dedicated simulators at premium price per-play, banks of inexpensive, popular, but older videogames (often sited in Electrocoin Goliath machines), and expanded their stocks of fruit machines, coin pushers, cranes, kiddie-rides, and novelty gift machines such as the eponymous *Glendale Parrot* (where a small plastic egg containing a ring, sticker, or pencil eraser is exchanged for a coin). This became the arcade's new equilibrium in the late 1980s. But it is important to recognize that it is a product of global economics, manufacturing, and business strategy. It was not due to the choice of arcade owners or changing public tastes; rather, it was determined by a complex web of production, supply, and economics on a global scale. This arcade supported collective public play, with entire families entertained by the videogames, kiddie rides, coin pushers, and fruit machines. But the attractive mix of kiddie rides and videogames in close proximity to fruit machines reignited public concerns about moral hazard, gambling, and delinquency.

8 Anti-Groups, Addiction, and the Arcade as Cinema

By 1984, the loosely knit anti-arcade group that had led the pushback against mid-1970s Piccadilly arcades had finally organized into a lobbying organization called the Amusement Arcade Action Group (AAAG), which began a coordinated campaign. Westminster councilor Robert Davis appeared on the BBC's *Sixty Minutes* news program during peak midweek viewing to declare that planning laws were inadequate to control arcades. In other television and newspaper features, AAAG members claimed that arcade machines were addictive to minors and that "arcades act as a magnet for drug peddlers, centres of child prostitution and other offences."[1] In November 1984, the Greater London Council (GLC), of which Westminster Council was a member, submitted the General Powers Bill to Parliament, which called for greater control over London-based amusement centers, defined as "any non-licensed premises with four or more coin-operated machines."[2] The GLC only had authority in London, but the arcade trade organization, the British Amusement Catering Trade Association (BACTA), recognized that if the bill were successful, it would likely lead to controls outside the capital. BACTA warned its members that it had been advised that councils in Scarborough, Nottingham, and Exmouth were preparing similar legislation. The mention of Scarborough was concerning, as it suggested that seaside councils, which had historically been more supportive of arcades than their urban peers, now wished to regulate them, despite Davis stating that the AAAG had no appetite for regulating seaside arcades, as they "provide harmless fun."[3] The General Powers Bill not only threatened arcades, but also the many entertainment sites that operated machines, whether bowling alley, snack bar, or cinema foyer. BACTA chairman Charles Henry made the reach of the bill clear: "If you've four kiddie rides in a supermarket entrance, then for the purposes of the bill, that supermarket is an arcade."[4] *BACTA* mobilized, immediately appointing parliamentary and public relations agents, preparing a petition, and scheduling meetings with the Gaming Board and Minister of State Douglas Hurd.

At the BACTA Annual Convention of 1988, the coin-operated trade was warned against an "anti-group onslaught,"[5] with chair Martin Burlin warning that "anti-group organizations pledged to harm amusement arcades in particular and amusement machines in general."[6] Burlin forecast that ministers and Members of Parliament (MPs) would be subjected to "a barrage of questions demanding changes in the law"[7] during the next parliamentary session. The British arcade industry was concerned by the threat posed by the AAAG and the industry's inability to present its position effectively in the national press. The coverage of arcades and coin-machines had become entirely lopsided in favor of the dramatic and urgent claims of the AAAG: put simply, the AAAG offered the media a more interesting story. While the treatment of the coin-op industry by the press was a concern, its greatest threat came from another of the AAAG's legislative amendments that was slowly working its way through Parliament, which argued that a videogame should be considered a cinematic performance.

The General Powers Bill was not only about arcades; it also included revisions to many laws affecting London. As a result, when the bill was discussed by MPs, some of the proposed amendments were contentious, and considerable negotiation of the amendments that were finally included took place. As the bill progressed through Parliament, the arcade controls segment became increasingly unpopular with the MPs, who announced it was "not a part of the Bill which the Government could support."[8] Therefore, in an effort to get other amendments passed, the arcade section was abandoned.

While the GLC had been unsuccessful in increasing arcade controls through the General Powers Bill, it did mark an important turning point for those seeking to control arcades. The AAAG began to look for existing legislation that could be amended to bring arcades under greater council control, and as we shall see, this tactic was highly effective.

The Arcade as Cinema

The seed of this threat to arcades was sown in October 1982 with the Cinematograph (Amendment) Act,[9] successfully introduced to prevent pubs from operating video jukebox machines for fear that they would damage the British cinema trade. The 1982 amendment changed the scope of a 1909 law to redefine "cinematograph exhibitions" as any exhibition of moving pictures for gain[10] except for live television programs that required cinema licenses which were issued by local councils. When the amendment passed, pubs with video jukeboxes became cinemas, and publicans balked at the added costs, administration, and safety inspections that this entailed, so they promptly removed the machines.

In March 1985, Westminster City Council, led by the AAAG's Robert Davis, brought a preemptive action against First Leisure Corporation's Crystal Rooms arcade, Leicester Square, to prevent the operation of pornographic videogames. The action was confusing, as the arcade did not contain any such machines, nor was there any particular public or operator appetite for them. Still, the council insisted that pornographic games were widespread in the US and sought to protect members of the British public before they arrived. The Westminster City Council tabled another amendment to the Cinematograph Act to classify videogames as cinematic performances. This would give the council authority to regulate the videogames displayed within its jurisdiction, banning offensive or pornographic videogames from public display as it did films. The reclassification would also make arcades susceptible to the laws applied to cinemas, require changes to floor plans due to fire concerns, and most important, allow the council to deny the necessary cinema licenses for a wide range of potential violations.

Unlike the weak planning laws, reclassifying videogames as cinematic performances would give councils strong control over arcades—so long as they contained videogames. Of course, it was unclear what arcade operators would do if the amendment became law—would they remove all of their videogames as they had done with multiplayer games in 1969? On April 5, 1985, the amendment was approved at a successful hearing. Afterward, David Chambers, the head of entertainment licensing at the GLC, refocused the debate on the (largely imaginary) specter of pornographic games:

> We do not want to see video sex games here. We certainly do not wish to imply that *BACTA*, or any of their members, would ever use these games, and the Crystal Rooms is a perfectly respectable establishment. But in Soho, the name of the game is to find a loophole and exploit it. We wanted to close the loophole before that happened.[11]

While the headline news was about pornography and content control, the arcade industry's concern was the sweeping controls that reclassification as cinema would bring to an arcade, tied with the Westminster City Council's "long-held desire to obtain greater control over amusement arcades."[12] BACTA made the implications clear to its members that "any premises housing a video game must be treated in exactly the same manner as a cinema. It means a pub or an amusement arcade, a cafe or a motorway service area, a fish and chip shop or a restaurant, with video games, must apply for a Cinema Licence. And that gives the council immense powers."[13]

Throughout the late 1980s, the AAAG stepped up its anti-arcade campaign, stressing the perceived risks of addiction and gambling, but based upon flimsy and exploitative journalism. In November 1986, the *Yorkshire Post* ran an article about children entering Showboat arcades unaccompanied, and Jimmy Thomas, chairman of Showboat Holdings, responded by instigating libel proceedings against the paper. Thomas explained: "Our industry has had to accept a lot of unsubstantiated copy-cat attacks. Every little reporter seems to want to get on the bandwagon. If they can't find something to attack us with, they try to create something. But, in Leeds, in their efforts to do this, they have slipped up."[14] It was not only regional newspapers that engaged with this topic. An episode of the BBC current affairs show *Forty Minutes*, aired on January 11, 1988, and captured the thrust of many of the AAAG supported accounts that ran over the previous years. The BBC2 program documented three cases of children addicted to fruit machines, giving "details of their compulsion, how it has affected their lives and those of their families, but without drawing any conclusions."[15] Nevertheless, the implication was that Amusement with Prizes (AWP) machines were harmful to young Britons, and arcades led to truancy, aggressive behavior, drug abuse, and even suicides among desperate fruit machine addicts. Similar attacks were made against bingo halls in July the same year.

BACTA mobilized as it had when the General Powers Bill was proposed, calling for additional hearings in higher courts to challenge the initial support the amendment had obtained. By April 1987, the GLC's Cinema Amendment Act had progressed to a court of appeal, but alarmingly the judges also supported the proposal.[16] BACTA and the entire British industry recognized the profound threat that this amendment posed to the British arcade, and was granted the final opportunity to appeal by the House of Lords—the Supreme Court in Britain.

On January 26, 1988, the British arcade industry's appeal was finally heard at the House of Lords. By this point, *Coin Slot* estimated that the

Cinema Amendment Act had placed approximately 100,000 videogames in Britain at risk.[17] The outcome of the appeal at the House of Lords would dictate the nature, and indeed future, of the British arcade. Surprisingly, the anticipated two-day hearing was cut short after less than a day, when the Westminster City Council's case collapsed spectacularly.[18]

Anthony Scrivener QC, representing the arcades, posed a simple question to the five experienced judges, known as Law Lords, asking whether videogames fall within the definition of "an exhibition of moving pictures."[19] Scrivener argued that exhibition meant "a performance or event before an audience," and an exhibition "cannot refer to a game, even though it might be based, to a large extent on a display of moving pictures."[20] To make the examples as concrete as possible, BACTA provided the Law Lords with an arcade videogame to play. One of the Law Lords, Lord Bridge of Harwich, responded: "I think we all have a mental picture of what the case is about, but I would not, by any means, be averse to the light relief of a demonstration."[21] Later, Lord Bridge said that if the words "exhibition of moving pictures" were applied "quite literally," they should cover fairground shooting ranges where ducks were pulled along as targets. After less than a day, the Law Lords called an end to the hearing.[22]

They ruled, with legal finality, that videogames did *not* constitute cinematic exhibitions. Operating videogames did not require a cinema license, approval of the entertainment licensing office, or indeed for premises to adhere to stringent cinema fire safety regulations. The Westminster City Council's initial concern over pornographic games was unjustified; such games never really appeared in Britain, and besides, arcade owners were generally socially conservative and had little appetite for pornographic games. Instead, the pornographic motivation spoke more of prejudicial attitudes held about arcade owners, arcades, and videogames than of any reality of the British industry.

Amusement Machines: Dependency and Delinquency

The AAAG's relentless lobbying in the mid- to late-1980s got the attention of the British government. In May 1987, Home Secretary Douglas Hurd commissioned a researcher, John Graham, to produce a report to quantify the risks of addiction and antisocial and criminal behavior that arcades posed to young Britons, and to explore whether there was any need for new arcade-related legislation.[23] In August 1988, six months after the Cinema Amendment Act was defeated in the House of Lords, Graham's report, titled *Amusement Machines: Dependency and Delinquency*, was published.[24] The thrust of the report centered around whether the existing law as defined by the 1960 Gaming Act, with no statutory age limit on the use of AWPs and no council power other than to specify a limit on the number of machines, was adequate in protecting children. Graham took into account the widely adopted BACTA policy that banned those under sixteen years of age from inland arcades, the different character of inland and seaside arcades, and the presence of videogames and AWPs in other premises such as fish-'n-chips shops and cafés. Graham conducted research in arcades and other venues where machines were sited, interviewing fruit-machine players and operators throughout Britain.[25]

It is perhaps an unusual thing to admit, but as an avid arcade-going adolescent/arcade local at the time of the report, I can vouch for its accurate account of British arcade life. Graham presents low stakes gambling by children as predominantly a "gregarious, peer group centred activity,"[26] recognizing the "social and collective element which appears to provide the context for the playing of amusement machines."[27] Instead of presenting the arcade-going children and adolescents as isolated or addicted to singular machines, the pattern of play that Graham documented was much more similar to a fairground or amusement park visit:

> Play appears to proceed in bouts of spending interspersed with short breaks and the pattern which develops tends to be characterized by emotional peaks and troughs, depending upon individual fortunes. The swings in mood are intense and compressed, euphoria and despair following quickly upon one another. If a player consistently loses, the bout of spending will be short. With the odd win, the bout will be extended. Part of the winnings is sometimes saved to fund the next bout, otherwise they are put straight back into the machine. During breaks, individual players might watch their friends or other players at play, smoke a cigarette, or leave the arcade in search of refreshments and throughout the event there is a constant undercurrent of playful flirtation between the girls and the boys in the group.[28]

Graham's report captured the essence of my adolescent arcade life, presenting the act of managing group finances as part of the pleasure of arcade play: "It is not just a matter of playing until the money runs out, but of turning the act of playing the machines into a collective experience of thrills and skills lasting as long as possible."[29]

The report did not present arcades as entirely benign spaces, nor the children in them naive to the risks and tensions at play. In relation to fruit machines, children "were aware that playing the machines, like under-age drinking, was on the borderline of what they were allowed."[30] Furthermore, the children also perceived "vague undercurrents of illegal and even dangerous activities"[31] in arcades, and this real or imaginary atmosphere was a "powerful attraction of arcades for some."[32] This chimes with my preoccupation with other locals, territorial patches, and adolescent power-relations, but in my case, these were imagined rather than substantive.

Graham interpreted AWP-play by those aged ten to sixteen years as "a social and predominantly group based activity"[33] that centered on "risk-taking, thrills and excitement" and "acquiring the respect and admiration of one's peers."[34] Ultimately, much of the observed adolescent arcade play involved "testing the boundaries of right and wrong, expressing one's emerging independence to the outside world and, ultimately, reaching towards adulthood."[35] The arcade was recognized as a cultural site, greater than the sum of its individual machines or visitors and of cultural significance to its community. For the adolescents in the study, the arcade was the site of an improvised rite of passage.

Graham's recommendation to the government was that "there does not appear to be a strong case for imposing further restrictions on the use of amusement machines."[36] In establishments other than arcades, where amusement machines were incidental to the main business, such as cafés and fish-'n-chips shops, Graham reminded that local authorities could already "apply a 'blanket' ban on all such premises or limit the number of machines allowed."[37] Similarly, they could limit arcade development locations on legitimate planning grounds, such as their proximity to schools. The tone of Graham's report indicated that the moral threat of arcades presented by the AAAG was exaggerated, and besides, by the time of the report's publication, the British arcade industry was seeing a decline; it was already a diminishing threat, if not widely recognized as yet. The report instead called for greater education on "how to identify early signs of over-indulgence in amusement machine playing"[38] and the establishment and strengthening of gambling support charities. John Patten, secretary of state for the Home Department, endorsed Graham's report, and the government saw no evidence of dependency among young people and no connection between playing machines and delinquency.[39]

The twin blows of the Cinematograph Act defeat and the government research paper on delinquency did not immediately stop the AAAG's lobbying, but they found that many MPs were less receptive to their calls. Likewise, the national and regional press became less willing to run the same prejudicial narratives of addiction and moral decline. Gradually, starved of its media outlets and sympathetic voices in government (and one imagines legal costs for the failed Cinematograph Act proposal were another consideration), the AAAG gradually diminished as a threat to arcades. Although maybe this view is naïve—perhaps the AAAG's calls got internalized by those in power? It appeared that the arcade was safe once more, even if its economic models as collective public play was challenged.

The high cost of Japanese products for the rest of the 1980s soon inverted the power relations between the Japanese and British arcade industry. The Japanese companies now needed British manufacturers like Brent Leisure and Electrocoin to generate sales of large machines that had become their primary output; in turn, the small number of board-based videogames being released were awarded to British companies as part of larger manufacturing deals—and on exclusive terms and in limited quantities.

One of the companies that benefited most was Electrocoin, due to its reputation, Japanese links, and manufacturing capacity, and in many ways, the Japanese adopted the terms of Stergides's letter years before. In this landscape, there was little room for small British distributors that lacked the capacity to produce quantities of large videogame cabinets, and we see the industry focusing around a few large companies: Electrocoin, Brent Leisure (formerly Taitel), Deith Leisure, and Atari. The recalibration to large games made distribution impossible for small companies that lacked the capital and exclusive agreements necessary to obtain new games, and those that remained focused on the slim profits to be made in secondhand machines and parallel imports.

By 1989, Electrocoin (or rather the Electrocoin Group), alongside Brent Leisure, had become the dominant machine manufacturers and distributors in the UK. Unlike Brent Leisure, Electrocoin was privately owned, affording it flexibility and autonomy that made it nimble and able to seize commercial opportunities without board consultation. In the eighteen months between February 1988 and August 1989, Electrocoin increased its staff from 95 to 350 full-time personnel, and its turnover rose above £30 million.[40] Electrocoin's chairman, John Stergides, invested wisely in manufacturing capacity in response to the strong yen. The company's 100,000-square-foot factory in South Wales enabled the company to handle every aspect of game manufacturing: screen printing, wiring, woodwork, printed circuit board PCB) manufacturing, and the assembly of videogames and AWPs. Electrocoin also had research and software development departments that could devise, test, and localize games in-house. Electrocoin Manufacturing had become the largest manufacturer of games in Europe: so big that everything could be done in-house. As a result of this expansion, by late 1989, Electrocoin were producing 200 to 300 games a week, with sometimes up to fifteen lines being produced simultaneously.[41]

Electrocoin had a sales headquarters in London, run by established industry veterans Nigel Booth, Gerry Bowyer, and Don Holman. Stergides had developed strong relationships with Japanese and US developers, including Taito, Capcom, Tatsumi, SNK, and Jaleco, and Electrocoin partnered with the pub fruit machine manufacturer Famous Games, having invested £1 million in the company.[42] In October 1989, Electrocoin was commissioned a £3-million order from Taito Europe to build 1,500 *Special Criminal Investigation* driving games, including sit-down variants designed jointly by Electrocoin's research and development team and Taito.[43] Taito Europe president, Grant Freerks explained the reasoning: "the quality of games from Electrocoin is among the best in the world. That is why we are placing this order with Electrocoin for the games to be built in the UK."[44]

In the late 1980s, the large companies such as Associated Leisure and Brent Leisure expanded by buying enormous operating concerns. By September 1988, Associated Leisure controlled 45,000 machines, while Brent Leisure was working toward a target of 10,000 pieces. With George Walker's investment power and the experienced sales team behind it, Brent Leisure became a major force in the British industry, alongside Electrocoin and Deith Leisure. One of the largest games at this point was Konami's *Teenage Mutant Ninja Turtles*, (renamed *Teenage Mutant Hero Turtles* in Britain), for which Brent Leisure secured a £2-million exclusive manufacturing and distribution contract.[45] *Teenage Mutant Hero Turtles* was a four-player, beat-'em-up videogame where players select one of the titular turtles and battles characters, accurately rendered and recognizable from the television cartoon series. Michael Green, the former Alca managing director, negotiated the lucrative contract for Brent Leisure long before the comic and cartoon franchise arrived in the UK, explaining, "I heard about *Teenage Mutant Hero Turtles* just before leaving for Japan from a contact in the USA and immediately called Mr. Bierrum [of Konami] who agreed to continue talks with us in Tokyo. We have worked hard together to set up this major deal, and we are delighted at the successful conclusion."[46] Like the Sega simulators before it, *Teenage Mutant Hero Turtles* mitigated against losses from copiers by making four-player play a critical part of the experience and selling an impressive bespoke cabinet for the game. Even when a copied version of the game appeared, for two players, it was nowhere near as much fun as the four-player experience on the legitimate machine.

Manufacturers adjusted to various economic realities, with Britain becoming the core manufacturing base for Europe. There was a shift toward large machines in an effort to foil copiers, and the size and weight of the machines, twinned with the high yen, necessitated they be manufactured in Britain instead of being shipped there. This led to the relaxation of manufacturing, with licenses distributed on a product-by-product basis, and factories in Britain collaborating and working to tender, often producing machines in factories apparently owned by competitors to ensure supply (and presumably in fear that stock shortages might reenable copiers). Finally, the increasing value of the yen and its negative impact on videogame releases and diversity were important factors. The themes of internationalization and moral threat are visibly clear. Britain's arcade redeveloped, the industry reshaped, and it became defined by its relationships with Japan. For players, the arcade changed once more.

For players, the 1980s presented a game with two halves. The early 1980s presented them with a wide range of new and novel—and sometimes not very good—videogames. Still, with many arcades around Britain, the experience was dominated by videogames and exploration. Further, each arcade might contain an unseen and unknown Japanese obscurity. The British arcade embraced Japanese machines more than American models, which became less numerous as American developers responded to the North American economic crash and refocused on home consoles. In the latter half of the 1980s, arcades were a mix of feature videogames, AWPs, and fruit machines, banks of Goliaths, Sega simulators, and complex fruit machines.

9 SegaWorld, *Street Fighter II*, and Exporting Games to Japan

The British arcade industry in the 1980s had been defined by the mainstream adoption of videogames, the specter of aggressive international trade arrangements, copies, the high-yen and the efforts of anti-groups such as the Amusement Arcades Action Group (AAAG). Yet despite these challenges, the late 1980s were a short period of profit as government policies resulted in available credit, increased consumer confidence, and public spending. In the late 1980s, the British public borrowed and spent money, and the arcade industry benefited much as other entertainment and leisure industries did. However, as the upturn was based upon borrowing rather than economic productivity, it was inevitable that readjustment and recession would follow. The British economy slowed in 1989, with inflation skyrocketing to 10 percent, and despite efforts to stabilize the situation, Britain had entered a recession by the third quarter of 1990. This resulted in the sudden unavailability of affordable credit: consumer spending collapsed, productivity declined, and unemployment rose. Put plainly, British disposable income plummeted, and the leisure sector felt this acutely (although not necessarily equally). The British arcade of the 1990s was defined by recession and subsequent attempts to address the conditions it created. The recession reduced consumer spending in arcades, but as the years progressed, this exacerbated the disparity between the weak pound and a very strong yen. Furthermore, in 1994, the British government approved its National Lottery, swiftly followed by the deregulation of gambling, which sent shock waves through the arcade industry. It is therefore in the 1990s, as opposed to the 1980s, that we see the greatest challenge to the British arcade's traditional identity, the idea of the arcade as a site of collective public play, to one where multiple arcades exist to cater for distinct audiences and modes of leisure. This period also sees a strengthening of the relationship between the Japanese and British industries—so much so that they become practically indistinct.

Sega, Namco Buy British

Corton Beach was a conglomerate that had invested heavily across the British coin-operated industry during the buoyant late 1980s (it also had a broad portfolio with interests in car sales, meat factories, and textile production). In February 1987, Corton Beach purchased Deith Leisure, and by 1990, it owned several other well-known arcade-related companies, including Phillip Sheffras Spares, Suzo Trading, and the American juke box distributor Belam. On October 16, 1990, Corton Beach, exposed to debt by the breadth of its investments, filed for administration (a British precursor to bankruptcy).[1] Deith Leisure, at this point the largest importer of coin-operated machines in Britain, found itself in jeopardy and put up for sale by the administrator. Deith Leisure's directors, Bob Deith and Colin Mallery, attempted a management buyout to take back control of the company, but they could not raise sufficient financing. As the sales negotiations continued, Deith Leisure began to downsize and limit its expenditures, and by December 1990, it appeared that the company would be closed and its remaining staff made redundant.

As Mallery detailed, Deith Leisure was by no means a small operation: "there were 400 people in that factory, we had proper designers there making stuff for *Sega*. We had three units in New Maldon. One for sales and distribution, one for spares, and one for manufacturing."[2] Deith Leisure's strong trading history and market visibility, not to mention its existing relationships with major international manufacturers, made it an attractive acquisition for Japanese companies. This was especially so due to the strength of the Japanese yen, which made the purchase relatively inexpensive. The trade was awash with rumors that Namco or Sega was considering buying Deith Leisure. Mallery explained:

> *Sega* decided they wanted to buy *Deith Leisure*, but they could buy it for very little. The receiver was in the position now where we only had shares to offer him. And they weren't worth anything if the company went down. But *Sega* still insisted that we could not hold more than a 20% stake in the company. They wanted control.[3]

The conditions of sale required Deith and Mallery to sell their shares, which were worth a fraction of their value before Corton Beach's implosion. The negotiations with Sega Japan were concluded at 1 a.m. on Christmas Eve,[4] and the directors could reassure the workforce that their jobs had been secured. The outcome of this purchase is interesting: one of the four major coin-op manufacturers and distributors in Britain was owned by a Japanese company. As was reported,[5] "*Sega Enterprises Ltd.*, jointly with *Namco Ltd.*, will now provide all necessary support and assistance to maintain and expand *Deith Leisure PLC's* business."[6]

Sega was the dominant stakeholder in the agreement. Deith Leisure remained an autonomous company, and its core business became aligned with that of its new Japanese owners (more so than Corton Beach's scattershot portfolio). While the company continued to sell a variety of machines, they became Sega's manufacturer and distributor in the UK. The relationship proved beneficial for Deith Leisure, especially as Sega continued to produce the most desirable large simulator and dedicated machines on the market. However, not all games designed by Sega in Japan suited British arcades, but true to the corporate agreement, Deith Leisure remained largely autonomous. Colin Mallery explained:

> I had a real showdown with *Sega* one time. Where they wanted me to buy 500 pieces of this equipment that I knew wouldn't sell. We had a guy who came over from Japan. He came to me and he says 'You must buy this,' he came to my office, this big office, long corridor, door always open when I was ready to receive people. The door was closed. He came barging in. He said "You will buy 500 of this," and I knew the game, *Sega* were in trouble and needed to get shot of this stuff. I said "Fine, I'll sell them sale or return." "No, no, you'll buy it!" I said No. I said to this guy "No, we don't want it. Do you know it'll cause this business to collapse?"[7]

The salesman was furious with Mallery's refusal to buy the machines, and he reported the decision to Sega Japan's president, Hayao Nakayama. Instead of demanding that Deith Leisure purchase the machine as instructed, the salesman promptly returned to the offices and apologized. Sega evidently recognized the importance of Deith Leisure as a gateway into the European market and trusted the judgment of the salesman, yet this situation highlights the precarious nature of distribution during the early 1990s, where margins were so slight that buying the wrong machine could result in financial ruin. In addition, all the while the yen remained so strong (and the pound so weak) that Sega and Namco gained a great deal from owning a British manufacturer. While the sales income from Europe would not be especially profitable when converted to yen, the manufacturing capacity was valuable, and it enabled Sega and Namco to trade in Europe and regulate costs while any company manufacturing in Japan was priced out. By building machines in British factories, the Japanese companies avoided distribution delays caused by global transport and manufactured goods at a more palatable cost to the European market. Interestingly, the global cost differentials meant that it was now economically viable to consider manufacturing machines in Britain and exporting them to Japan.

While the consolidation and mergers were happening, all was not well with the arcade industry. The recession had begun to have an impact on disposable public income, and arcade operators had become slow and cautious with their coin-operated investments. The shift to large, spectacular machines such as driving cabs had slowed purchasing, as only the most lucrative of arcades could afford to buy the latest machines. Instead, operators kept popular, older games running in their arcades for longer. As fewer games reached the market, their operational life spans extended and this pattern continued; operators bought fewer new machines, and a second-hand and reconditioned videogame trade grew. While this was adequate for operators, it led to diminished returns for distributors. Similarly, there was a reduction in new Amusement with Prizes (AWP) purchases due to the recession. What sales did occur tended to be for simple, low-tech fruit machines, as arcade audiences moved away from the previously complex designs with their feature-trails, nudges, and holds. The AWP manufacturer Project Coin pioneered the low-tech AWP movement,[8] and its games, alongside Electrocoin's *Bar-X* and others by Famous Games (an Electrocoin subsidiary) took a significant proportion of a shrinking market.

Britain as the Arcade Hub

Sega's purchase of Deith Leisure was noticed by other Japanese manufacturers, who began to consider the role that Britain could play in European arcade machine distribution. While British arcades were under considerable strain, the market remained the strongest in Europe, with an established coin-operated manufacturing, distribution, sales, and operation industry. In January 1991, the Japanese manufacturer Konami reappraised its entire European organization, deciding to centralize all of its arcade-oriented activities to Britain, and focus its continental offices on the still-emerging domestic market. Konami Europe's general manager, Richard Dunn, explained that "London represents the best location for our coin-operated amusement machine activities,"[9] and he also stressed Konami's "blossoming relationship with *Nintendo*, which now has its European headquarters there."[10] As the coin-operated videogames market declined, Japanese manufacturers concentrated their offices in Britain, but the decline in trade was so great that Konami's UK office, in Uxbridge, West London, also housed the company's British consumer division.

It is a popular narrative to attribute the decline of arcades to the desirability of the home videogame market, but in Britain at least, the causality is uncertain. While home computers and consoles placed additional pressure on arcade income, the reality was that the decline of videogames in the arcade was caused by a withdrawal of Japanese manufacturers from the market. Having faced attrition from copiers, the strong yen, and the weakening arcades in much of continental Europe, Japanese manufacturers stopped producing arcade games in favor of home consoles. In Britain, the demand for arcade machines remained, but the issue became one of sourcing new and interesting games. The reality is that Britain was far slower to adopt home consoles due to its strong investment in home computers and, I would assume, the proximity and availability of the arcade. It is incorrect to say that home videogames became more attractive to the public than their arcade counterparts; instead, manufacturers in Japan and the US stopped manufacturing videogames in sufficient numbers to entertain British arcade-goers.

New Games, Big Tech

In late February 1991, Electrocoin, who in the late 1980s had formed exclusive distribution partnerships with several major Japanese manufacturers, demonstrated Capcom's *Street Fighter II* game at the Blackpool trade show. However, it wasn't until the reports from the Tokyo AOU show (held February 25–26) came out in mid-March that the game's strengths became apparent. Coin Slot's David Snook characterized the US and European arcade industries as "thinking purely in terms of survival,"[11] while Japan's "breezed optimism and energy."[12] However, the Japanese optimism was not shared by British visitors who faced a selection of machines that almost entirely failed to suit the British arcade landscape. The AOU demonstrated the Japanese domestic market's shift toward medal or egg-type redemption machines, where novelty prizes are awarded directly by the machines instead of via tickets. Many of the major manufacturers—Sega, Konami, and Irem—showed medal machines including cranes, poker, bingo games, and horse racing, each of which dispensed plastic toys and keepsakes. Perhaps unsurprisingly, the Japanese manufacturer Sigma were distributing Cromptons' *Riviera* and *New Penny Falls* pushers, all modified for Japanese medal capsule play.[13] Cromptons' pushers had found considerable favor with Japanese audiences, and the longstanding partnership with Sigma that had begun with the ill-fated *Gokuh* distributorship some ten years earlier was now beneficial for all the parties.

The trend toward large dedicated videogames seen in the late 1980s continued, reaching its apex with the £100,000 hydraulic *AS-1* rollercoaster simulator previewed at AOU 91, and the R360 cabinet *G-LOC* jet fighter game, which could spin 360 degrees in any direction.[14] Smaller games included Atari's *Mad Dog MacCree*, Irem's *Gunforce*, Data East's *RoboCop 2*, several games for SNK's *Neo-Geo* multigame system, and Capcom's *Street Fighter II*. In August 1991, at the ACME show in Las Vegas, Sega released its hologram system videogame, *Time Traveler*.[15] The machine used a black, polished, curved mirror to give the impression that game characters floated in front of the player. As the game's breathless advertising copy explained, "*Time Traveler's* action doesn't take place on a video monitor. Instead, images of real actors appear in three dimensions on the Hologram™ stage located in front of the control panel."[16] While the gameplay was simplistic and lackluster, *Time Traveler* was an effective, if terminal, technical proof of concept. The game sold in reasonable numbers, becoming a novelty of larger British arcades in the early 1990s, but was not popular. I remember the last time I saw one in a Margate arcade a few years later, hidden in a corner with its cabinet vandalized—the primary-colored polygonal foam blocks that once proudly sat on the machine's playfield long since ripped off and pocketed (. . . probably by my sister).

Despite all the apparent technological innovation, the 1991 AOU, ACME, and Blackpool shows betrayed the global shift toward redemption, the continuation of large, dedicated machines and technical marvels, and the general withdrawal from the printed circuit board (PCB) game format. Scale and novelty appeared as the dominant themes and direction of travel for the global industry—even if these sat uncomfortably with the nature of the British arcade, its coastal/urban divide, and its longstanding history of low-stakes gambling. It is perhaps telling that of all the machines made by Japanese manufacturers in 1991, a PCB game, *Street Fighter II*, had the greatest impact on British arcades.

Following the AOU show, the large British arcades invested in the premium machines, as expected. Arlington Leisure's cavernous Mr B's arcade, Blackpool, installed a Sega R360 for Easter 1991, following a £1-million refurbishment of the premises.[17] Another R360 was installed at the Funland arcade in the Trocadero shopping center, London.[18] These were the only two R360 machines in Britain at the time, giving a sense of the scale of both sites. Both machines were supplied by Brent Leisure, who despite Sega now owning Deith Leisure, were contractually still Sega's exclusive distributor for the machines. Yet while these big machines were impressive and feature machines had drawn arcade-goers for five years, operators looked on as crowds formed around the *Street Fighter II* machines and coin-boxes filled. Electrocoin had the exclusive license to distribute the machine, but supply of *Street Fighter II* PCBs dwindled as operators fought to obtain the game. By April 1991, parallel importers were at it again, advertising the PCB for sale for £995, £200 more than the next-most-expensive PCB game[19] (in most cases, the advertised price was announced only upon application, reflecting its popularity and the opportunity for profiteering). To place this price in context, a used *Out Run Deluxe* cabinet, five years old but still considered an evergreen premium machine, was £1,295.[20] In May 1991, Electrocoin released its Duet cabinet, essentially a British interpretation of Japanese candy cabs, which included a large 28-inch screen and two built-in stools, especially designed for *Street Fighter II* and *Euro Football Champ*. Arcades during the summer of 1991 were defined by *Street Fighter II*, which became something of a national obsession for those interested in videogames. Despite the depth of the recession and reduced public spending, the quality of *Street Fighter II*, the pleasures of spectatorship, displays of skill, and rapid bouts of combat and competition made it an excellent earner and well worth the investment. It was common for arcades to contain multiple *Street Fighter II* machines, often in Electrocoin Duet or Goliath cabinets, and as a videogaming adolescent at the time, I became familiar with the qualities of the machines in each arcade, the joystick tightness, the button responsiveness, and the skills of their resident players. The demand for *Street Fighter II* PCBs was similar to that for *Space Invaders* and *Defender* a decade before, and while global attempts had been made to suppress arcade videogame copying, *Street Fighter II* was in such demand that copies once again became rife.

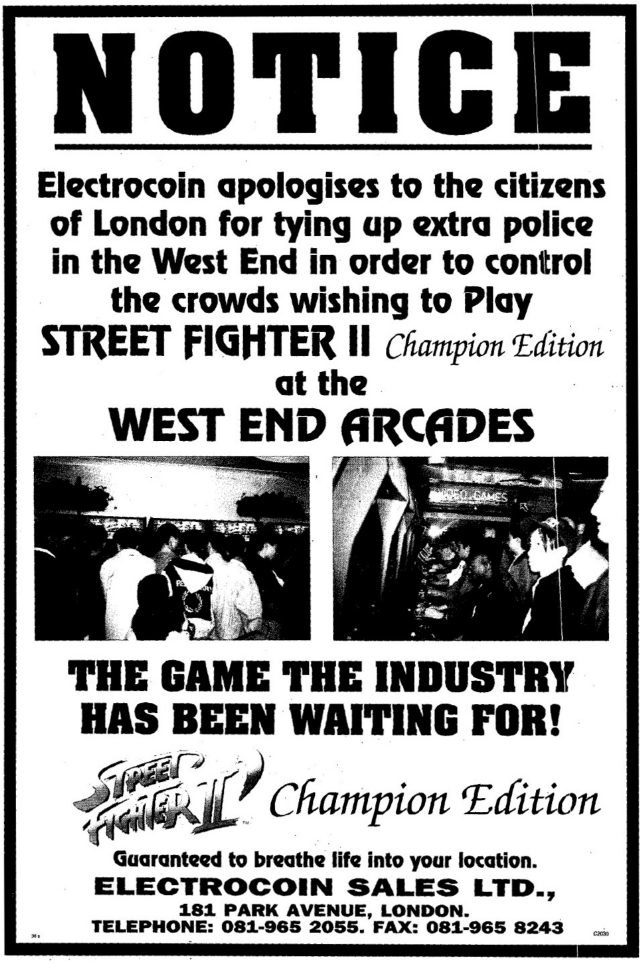
As the British recession deepened, companies—especially hoteliers and those with interests in leisure industries—faced financial pressure. In March 1992, Brent Walker, the leisure company that owned Brent Leisure, announced a £1.6 billion restructuring and rescue package from its banks to address the enormous debt that had accrued during the recession. Brent Walker's shareholders voted for the deal, bringing the company under control of the Credit Suisse investment bank. Afterward, in August 1992, Credit Suisse decided to sell Brent Leisure:[21] it was announced that Namco had bought the company a month later.[22] Adopting the same approach that was working so well for Deith Leisure, Brent Leisure would now manufacture, sell, and distribute all of Namco's arcade machines for Europe. Now, of the four major British distributors, Deith Leisure, Brent Leisure, Associated Leisure, and Electrocoin, two (Deith and Brent Leisure) were owned by Japanese manufacturers, Associated Leisure was struggling under the weight of an unfortunately timed overexpansion, while the other, Electrocoin, was doing exceptionally well with its distribution of *Street Fighter II* games and its popular *Bar-X* AWP.

Street Fighter II Champion Edition

In March 1992, Electrocoin had managed the release of *Street Fighter II Champion Edition*, the game's expanded new iteration. Unlike the success of the original *Street Fighter II*, which had come as something of a welcome surprise, *Champion Edition*'s release was carefully orchestrated to maximize profits and fend off copiers. For the first three months, the game was available only as a dedicated cabinet, manufactured in Europe at Electrocoin's Cardiff factory.[23] Next, the international release dates for the game were harmonized, with the delay between Japanese and European release reduced. Electrocoin advertised the game from mid-March. The first machines were put on test in central London arcades at the beginning of April, performing fantastically, and the first shipments (already long allocated) were fulfilled in May. Public interest in *Street Fighter II* reached a crescendo with the release of *Champion Edition*: so much so that police were called in to disperse crowds around the machines in one arcade (the specific arcade wasn't mentioned, but it was likely Stergides' Tottenham Court Road Casino Amusements arcade). Electrocoin's John Stergides described *Champion Edition* as "quite phenomenal"[24] and evidence that despite the recession, "if the game is strong enough, then the players will put their money in the slot."[25] It isn't entirely clear whether the police intervention was a canny publicity stunt or a genuine response to crowds, but either way, Stergides took the opportunity to place a full-page ad in *Coin Slot*, apologizing to "the citizens of London" for the disruption the popularity of *Street Fighter II Champion Edition* was causing (see figure 9.1).[26]

As an arcade-goer at the time, I was utterly confounded by the *Street Fighter II* craze. Arcades were busier than normal, and with a crowd that never normally played in them. Much like the summer throngs of tourists who played games badly, now there were groups of children, adolescents, and adults crowded around the two *Street Fighter II* machines in my arcade. Unlike the vacationers, these new visitors didn't seem to play on any other machines or even venture any deeper into the cavernous arcade, nor did they often move out of their tight groups or away from the machine until they had run out of money or had their fill. Despite being a competitive two-player game, the way that the groups of players approached *Street Fighter II* inhibited actual competitive play; they played in their groups until they left. I was by no means good at *Street Fighter II*, but I could hold my own in normal competition. Occasionally, a good player would appear, often in the evenings and often alone, and it caused a strange mix of awe and frustration when I lost to them. The games scholar David Surman talks of a similar sense of fascination when watching adept *Street Fighter II* players (and one assumes being beaten by them), describing it as "enchantment" and a "formative movement in my ongoing fascination with videogames."[27]

The careful release of *Street Fighter II Champion Edition* deterred parallel importers, but it had little impact upon copiers, who had an easy task because the new release was essentially identical to the original in terms of hardware. At the Japanese Amusement Machine and Marketing Association (JAMMA) trade show in late August 1992, another summit between international videogame distributors and manufacturers was called.[28] Led by Sega's president Nakayama, the summit discussed the new state of global videogame copying and its resurgence following the arrival of *Street Fighter II*. The discussions betrayed the decline of the British arcade market's economic significance caused by the recession and low sales figures.



NOTICE

Electrocoin apologises to the citizens of London for tying up extra police in the West End in order to control the crowds wishing to Play STREET FIGHTER II *Champion Edition* **at the WEST END ARCADES**

VIDEO GAMES

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Figure 9.1
Electrocoin's *Street Fighter II Champion Edition* ad from World's Fair's *Coin Slot* supplement, "apologizing" to people in London who were disrupted due to the popularity of the game. Coin Slot International.

Although Britain had officially left the recession behind in late 1991, its repercussions were still being felt across the leisure industries. Furthermore, two of the four major British distributors were now Japanese owned, and so their interests were represented on some level by JAMMA. The American delegation suggested the need for an "international campaign against copiers,"[29] and while the Japanese representatives agreed, they felt that the cost of a campaign had been drastically underestimated.[30] JAMMA felt that an anti-piracy campaign would cost closer to 100 million yen (around $750,000) for the "first few years,"[31] to be shared by the global coin-operated videogames industry. By the early 1990s, videogame copying had become a sophisticated and productive international industry, no longer the creation of the "little men" from the British videogame cloning days of the early 1980s: bootleg boards were made in hundreds in specialist factories in Italy, Spain, South Korea, and Taiwan, and following the success of *Street Fighter II*, in the emerging markets of Indonesia and Pakistan.[32] A further concern was that while parallel importation was legal in Europe, it was still prohibited in the US, but there was public appetite to challenge this. JAMMA feared that if parallel importation became legal in North America, it would disrupt the market and profits would collapse further. North America would be affected by the same issues of secondhand sales and stock-dumping that plagued Britain, as per Stergides's earlier entreaties. JAMMA's international campaign also included a provision to fund legal efforts to delay American parallel importation (it was eventually legalized in 1998).[33]

With the international scope and the scale of losses incurred by manufacturers through copying now clarified, the international videogame industry, primarily organized by Japanese and American companies, escalated their antipiracy actions. Copying factories were targeted, but instead of only securing the boards, the officers seized paperwork and files in an attempt to unravel the international networks of manufacturers, importers, and distributors trading in illegitimate game PCBs. In Britain, the Counterfeiting Intelligence Bureau of the International Chamber of Commerce (ICC) became active, targeting companies trading in copied Japanese videogames, now mostly driven by *Capcom's Street Fighter II*.[34] British companies were investigated, identified by a trail of documents seized in a Taiwanese copy-house raid.

Under recently strengthened British copyright laws introduced in 1988, copiers faced significant fines and the risk of prison sentences. Yet despite these initiatives, the combination of recession and public demand for *Street Fighter II*, found everywhere from arcades to chip shops and cafés, had made copied boards prevalent. In February 1993, it was estimated that "around 10,000 copies of *Street Fighter II* [were] in operation in the UK," while some in the industry suggested around half of all videogames in Britain were bootlegs.[35] As a teenager during the height of the *Street Fighter II* craze, I recall that the game was sited in numerous locations in my school's seaside town, in arcades, in cafés, in a computer games shop, and in a fish-'n-chips shop only yards from the school itself. Not only was the game in the chips shop likely to be a copy, it was certainly a bootleg modification known as *Street Fighter II Rainbow Edition,* in which fighters could perform moves while jumping and flurries of fireballs raced across the screen. For me, it was a funny and challenging game, and besides it was only 10p to play. *Rainbow Edition* was a novel alternative to the original game that I had become relatively adept at in the arcade and then mastered on the Super Nintendo Entertainment System (SNES) home console since I got one for Christmas in 1992. It is evident that the proliferation of *Street Fighter II* copies reduced individual machine income and suppressed revenue for Capcom and Electrocoin, not to mention the entire industry. Aware of this proliferation and planning increased legal action against those importing and operating copies, Capcom offered British owners an amnesty for anyone surrendering illegitimate copied PCBs—it is uncertain if anyone did so.

The long-term strengthening of the yen also coincided with the expansion of the Japanese manufacturers' home console products in Britain and Europe. While the differentials in exchange rates were painfully pronounced on a £10,000 After Burner machine, so much so as to make it untenable, the differences were more palatable with a £70 Nintendo GameBoy (which wasn't released until September 1990), the £190 Sega MegaDrive (also released in September 1990), or the £150 SNES (which appeared in April 1992). But it is important to recognize that the British home system market was quite different from those of North America or Japan and was still heavily skewed toward home computer ownership, likely due to the effectiveness of the BBC Micro promotional and educational campaign in the early 1980s. While the Nintendo Entertainment System (NES) was released in Britain in September 1986, and the Sega Master System in August 1987, by 1990, neither system was selling especially well. It is estimated that by 1990, only 700,000 units had been sold of the Sega and Nintendo 8-bit consoles in Britain combined,[36] with the Sega machine slightly more popular. In contrast, it is estimated that between 5 and 6 million ZX Spectrum computers were sold,[37] the majority in Britain, and the Commodore 64 remained popular, although British sales figures are not available.

The point here is that well into the early 1990s, Britain remained rather ambivalent to Japanese home videogame consoles, and therefore the arcade was not replaced by home consoles as many suggest. Even data from 1994, a year before the Sony PlayStation was released, paints a similar picture, with Britain having an install-base of 4 million Sega MegaDrives, 1.7 million SNES machines, and 1.5 million Commodore Amiga computers.[38] In comparison, North America had an install-base of more than four times that for the Sega machine (17.5 million), and nine times that for the Nintendo (15 million). While these figures might correlate with the population sizes of the different territories, what is important to recognize is that, in Britain at least, the home console was not quite the serious threat to the arcade that we were led to believe it was until the mid-1990s, when conditions were much different and the arcade videogame supply reduced by other external factors.

The popular history of videogames, promoted by Erkii Huhtamo's cryptohistorians and central to the mythic arcade, is that players turned their back on arcades in favor of home videogames because they were so much more compelling. But the truth, at least from a British perspective, is that the arcade videogame industry capitulated and gave up on the arcade. In Britain, 16-bit home consoles and multimedia PCs were available, but they had not yet got great traction. The relationship between arcade and home computers was far less oppositional than the mythic arcade suggests, with home videogames seen as subordinate to the arcade. This view was propagated by the British videogame press, with one of the strongest accolades offered for a home videogame being its arcade accuracy. Furthermore, popular magazines such as *Computer + Video Games (C+VG),* the best-selling such magazine in Britain, routinely featured arcade stories and advised their readers of the best arcade games to play, often including visits to Blackpool arcades and speaking of forthcoming home computer translations. The February 1988 issue of *C+VG* included an "Arcade Action" supplement that featured a tour of Ruffler & Deith's Hartlepool warehouse before it was closed and its contents sold at auction. *C+VG's* Tony Takoushi talks about the visit with deference and respect, not describing an irrelevant and soon to be overcome medium:

> What you are about to read and see in my pictures is a piece of history, every arcade game I could remember (and more) were there, assembled in one place for the very last time. . . . I hunted though to find some real gems. There were panels from classics like Frogger, Amidar, Galaga, Stargate, Donkey Kong, Centipede, Pengo and Zaxxon. I bought many of these back with me to be framed and put on my wall at home—this is history.[39]

The same *C+VG* issue included an interview with Capcom USA's president, Yoshihito "George" Nakamara, who discussed *Street Fighter*, *After Burner,* and future arcade technologies. There was a competition to win an arcade videogame cabinet, and arcade high-scores listed (and a cut-out form for submitting scores). The point here is that the British coin-op and home videogame industries developed in tandem and in collaboration. Arcade industry members, whether the presidents of manufacturing companies or executives of distributors, were supportive of the home videogame industry, recognizing opportunities to build public interest and arcade audiences.

The home videogame industry, often via conversion houses like U.S. Gold and Ocean, used the (rarely emulated) promise of arcade videogames to sell their products. The games produced for the Commodore 64, ZX Spectrum, or Atari ST, were often of variable quality, giving a sense of the original arcade, but rarely little more. The arcade remained dominant as an experience, but the relationship between home and arcade more complex and symbiotic than is often recognized. The February 1988 *C+VG* issue's back cover featured *Out Run*, highlighting this promise. Showing an articulated *Out Run Deluxe* machine in its bottom-right corner, it boasted, "The machine becomes a home computer reality on December 10th." Anybody who has played the ZX Spectrum conversion will know that while this statement might be technically correct, the reality it offers bears very resemblance to the arcade classic.

The Sega MegaDrive was released in Britain in September 1990, followed by the SNES in April 1992. By December of that year, a competent version of Capcom's *Street Fighter II* was released on the SNES, followed by *Mortal Kombat* in October 1993, and while these home console versions were not completely arcade-accurate, the core inputs and gameplay were. But even by *Mortal Kombat*'s release, only 0.8 million SNES and 2.4 million MegaDrive consoles were thought to be owned in Britain.[40] These numbers were not sufficient to bring the arcade industry to its knees as per the mythic arcade, and frankly, while the games were good, they still could not compete with the player experience in the arcade. Home consoles did not bring the end of the arcade to Britain, nor did they kill the arcade videogame. Japanese manufacturers stopped making videogames for an export market, the economic conditions of the high yen forced their hand, and the North American arcade industry never recovered from the crash and shakedown of the early 1980s.

Nintendo had historically played a role in British arcades, having produced several dedicated arcade videogames. However, from the release of its PlayChoice-10 machine in late 1986, Nintendo prioritized making their home-console games coin-operated instead of converting arcade games to their consoles. The PlayChoice-10 contained a robustly built NES home console in an arcade cabinet, as well as a mechanism for the player to select from up to ten games installed by the operator. The PlayChoice-10 performed well in Britain, especially as an arcade machine for the pub trade, where space was at a premium. Of the estimated 30,000 PlayChoice-10 machines manufactured globally, 6,000 were sited in Britain and 20,000 in North America.[41] In September 1991, Nintendo unveiled its 16-bit successor to the PlayChoice-10, the Nintendo Super System containing a SNES.[42] The Super System was marketed for arcades, available from January 1992, during the height of the *Street Fighter II* craze and the shadow of recession. Furthermore, while the PlayChoice-10 had capacity for ten games, the Super System only had space for three. Nintendo vice president Al Stone explained the company's unconvincing logic: "we found that 90 per cent of the play was on two or three games in *PlayChoice-10* so we are restricting the number of games the unit will carry to that number."[43]

The domestic SNES that powered the Super System was released in April 1992, only three months after the Super System and one month after *Street Fighter II Champion Edition's* arcade release. The Super System was a confusing and poorly thought-out product. Were operators really going to buy an expensive machine containing dedicated hardware limited to only three games, especially when the three games were identical to the ones that many players would have at home? It would make sense as a promotional product on free play in a shopping center, perhaps, but not in a British arcade.

What was Nintendo thinking? Did it not understand the British arcade? The Super System performed abysmally. By August 1992, it was revealed that only 1,200 Super Systems had been sold *globally*.[44] The repercussions for this commercial failure were swift and decisive (perhaps even premeditated, if we consider the decreasing profitability of Japanese arcade machines outside of Japan due to the strong yen and high unit costs). Nintendo announced that it was departing the arcade industry to focus wholly on consumer electronics.[45]

Sega: Three Dimensions, Hamleys, and Family Entertainment Centres

As Nintendo departed the coin-operated market, Sega announced plans to increase its own investment in it, particularly in Britain. Sega obtained permission to build a £3 million, 23,000-square-foot Family Entertainment Centre (FEC) on the ground floor of the Palace Court Hotel in Bournemouth, a major—if rather conservative—seaside resort on the south coast.[46] Bournemouth had only two small arcades at this point despite its sizable vacationing population. Sega's FEC application, therefore, marked an important step in overcoming conservative planning committees, but also in its scale of proposed investment. It is important to note that the proposed FEC would not contain any AWPs or gambling whatsoever. Instead, it would include the latest and most impressive Sega machines: a spinning R360 machine and a colossal £100,000 AS-1 simulator. The site included a bowling area, redemption machines, an educational area, a Sega merchandise shop, and a Quasar laser-tag installation. In many ways, the proposal was similar to the largest British arcades as seen at Blackpool or Funland Trocadero, apart from its focus on Sega *as a brand* and the categorical omission of traditional fruit machines. It therefore lacked the diverse revenue streams that had been central to income in British arcades.

At the same period, Sega unveiled *Virtua Racing*, a Formula One–style racing game that had exceptional polygonal three-dimensional (3D) graphics. The same hardware was later used in *Virtua Fighter*, demonstrating that 3D polygons could be effectively used in the popular fighting game genre. The Model 1 system was a powerful demonstration of Sega's technical prowess and their commitment to the arcade. For avid videogame players, the arcade at this point was defined by Sega and Capcom releases. Sega's releases continued the established pattern of dedicated cabinets and simulations, while Capcom's fighting games were PCB-based.

At the preview event for European Sega distributors held in July 1992, Sega Europe's chief executive officer George Kieffer announced that *Virtua Racing* marked the beginning of "a new era of CG games from *Sega*."[47] Furthermore, the event gave a glimpse into Sega's commercial operation. Mike Green, newly appointed as Sega Europe's managing director, explained that the Japanese company had doubled global sales income since 1990, likely attributable to its popular Genesis/Mega Drive 16-bit home consoles that were released in Europe in 1990. Sega announced its intention to develop several FECs around Britain, described as a "comprehensive leisure environment including eating places, shopping areas, sports complexes and, of course, amusement machines, rides and novelties."[48] It was evidently Sega's intention to reframe the British arcade along the lines of an American mall-based FEC or a Japanese Sega Center. Furthermore, it was announced that "more machine manufacture would be transferred from Japan to Europe"[49] via Deith Leisure and the French subsidiary WDK. In November 1992, Sega opened an arcade in the basement of the famous Hamleys toy store in Regent Street, London.[50] The Hamleys arcade contained eighty-five videogame and redemption machines, a small number of kiddie rides specially imported from Japan, and again, zero AWP machines.[51] The arcade opening coincided with Sega's release of *Sonic the Hedgehog 2* for the Mega Drive home console. Kieffer described it as "the first in hopefully a string of in-store locations."[52] The Bournemouth and Hamleys developments, the relocation of manufacturing from Japan to Deith Leisure's New Maldon factories, and the synergies between home and arcade videogames were the start of Sega's grand vision for British arcades.

No More PCB Games Being Made

At this point, there was often relatively little distinction between arcade and home console game production, with many development teams working across platforms. However, as the consumer market became increasingly profitable, with console install-bases increasing while remaining largely untarnished by copiers, the home divisions expanded and separated. Several Japanese game manufacturers began to refocus on consumer games, and the number of new arcade videogames declined further. This pattern was noticeable at the September 1992 Tokyo JAMMA show, where it was reported that only a dozen new videogame PCBs were demonstrated, compared to around fifty the year before.[53] The lack of PCBs was a concern to British distributors, which recognized that there was still demand for videogames for British arcades, but almost no product. A *Coin Slot* editorial mused, "If Japan has decided that we're only going to have big, expensive sophisticated major pieces for our arcades, what does the person do who has a small seaside arcade or the smaller inland unit—in other words, the type of arcade which cannot support the major pieces either from the cost or space point of view?"[54]

The British arcade model that was established in the late 1980s was that PCB videogames played an essential role in the diverse machine mix. New PCB games were essential, as their purchase led to secondhand sales and a recirculation of games. New games, even expensive ones, helped refresh the entire British market. The absence of new PCB games signaled a stagnation of the videogame mix, and operators feared that visitors would soon tire of the familiar games in their arcades and turn to home videogames instead. Japan's almost total shift to dedicated games was a death knell to the British model of the arcade in the late 1980s. Faced with few new PCBs, operators had little choice but to invest in expensive, dedicated machines, but their high cost and the risk of making the wrong purchase (like *Time Traveler*) made new purchases rare and cautious. In response, the demand for popular secondhand machines strengthened and prices stabilized, and operators practically stopped buying PCBs altogether (aside from more *Street Fighter II* games), saving their investments for spectacular new games. By October 1992, the impact of this approach on distributors was evident. The established wisdom was that the British market consisted of around 80,000 videogames (some 20,000 fewer than during the Cinema Amendment Act debacle four years earlier), 20 percent of which would be replaced in a typical year, resulting in 15,000–20,000 new PCB sales.[55] However, after comparing sales data, it appeared that new PCB sales in 1992 had more or less halved to 10,000 units.[56] Worryingly, this trend only deepened the following year. By July 1993, with demand for *Street Fighter II* PCBs now largely sated, Electrocoin's John Stergides estimated a 60 percent decline,[57] with fewer than 4,000 new PCBs sold.[58]

While the British pound had remained relatively stable against the yen since 1986, on September 16, 1992, known as "Black Wednesday," the British government withdrew the pound from the European Exchange Rate Mechanism, and it collapsed in value. By July 1993, the yen cost 55 percent more in pounds sterling than it had a year before, and it remained at this level until 1995.[59] The costs of importing Japanese goods such as arcade videogames became utterly prohibitive. Stergides explained the stark financial realities experienced by videogame distributors in July 1993:

> Twelve months ago a one-off PCB sale would have been around 100,000 yen, which was around £595. Now, the same board at the same yen price worked out at £795. When a game is earning around £50 a week and it is on shares, it does not make sense, it can take as much as two years to get your money back. Only the very top games are selling, therefore, and if they can pull in £80 a week it is just about justified, economically.[60]

Yet, while Stergides attempted to reassure operators of the value of PCBs, most simply stopped buying and saved their money for the painfully expensive, but necessary, large, dedicated machines that were now being manufactured in Britain. In less than two years, the British PCB videogame market all but disappeared; the lack of new releases from Japan and the refocus on redemption had forced operators to buy big machines, and the demand for PCB videogames market in Britain declined by 80 percent. The market for PCB sales was over, and the business was entirely reliant on dedicated machines.

In July 1993, Sega's Bournemouth FEC opened, incorporating themed areas such as Sonic Strike bowling; the Driving Edge, containing the latest Sega racing games; a children's play area called Amazone; and a Burger King franchise labeled the Mega Byte Zone.[61] The eight-person AS-1 simulator was installed in August, attracting large crowds of holidaymakers, and the center was considered a success—although one would wonder how long it would take for Sega to recoup its enormous installation costs, even if it did make the machines itself. Sega's Malcolm Evans was explicit in the company's intentions: "Centres such as these are always going to be bright, airy and clean. We are looking to provide safety in a secure environment. As far as I'm concerned it is the wider customer base we are looking to attract. We want the whole family to come to our centres."[62]

Sega promptly announced and opened several more centers around Britain, and between 1993 and 1996 Namco, Rank, Atari, and Telepublic opened similar FEC sites. In November 1993, Telepublic opened the UK's first entertainment center in a department store—Activ8—which occupied 5,000 square feet of retail space in Debenhams, Ipswich.[63] This was followed by similar arcades in Gatwick and Heathrow airports, Croydon, and Glasgow. In July 1995, Namco Operations Europe opened Wonderpark, a £7-million, 18,000-square-foot FEC on Great Windmill Street, London.[64] Wonderpark adopted many of the Japanese medal redemption machines, but it also served as a European test site for Namco machines, developing a reputation among arcade-goers wanting to play the latest games. It was here that the public were able to play "prototype versions of *Tekken 2*, *Cybercycles*, *Alpine Racer* and *Rave Racer*."[65] Similar to Sega's approach, Namco opened Wonderparks elsewhere in Britain, including in Southampton, Hemel Hempstead, Luton, and at Manchester's major shopping center, the Trafford Centre. The Namco Funscape County Hall arcade in Westminster, which opened in 1997 as Namco Station and closed in August 2021, was a later iteration of the Wonderpark program.

Keeping It in the Family

In October 1993, Mike Green, now working as director of sales at Sega Amusements Europe, was invited for another meeting with Martin Bromley, and was offered joint managing directorship of the Family Leisure arcade operations company alongside Alan Rawlinson.[66] Family Leisure owned some of the most prestigious British arcades, including sites in Blackpool and the Funland/Laserbowl in London's Trocadero, considered one of the busiest arcades in the world. Green accepted the offer. Shortly afterward, Sega announced that it was closing its German arcade division, which was especially significant as Germany was considered the second-largest European market after Britain.[67] Sega had introduced Japanese-style FECs to Germany, but they were unpopular, constituting only about 10 percent of the company's European operational income.[68] One major German distributor told *Coin Slot* that Sega's plan was a misstep, explaining, "Germany is not interested in this type of location. Family entertainment centres are not in line with the German conception of an arcade"; this statement became something of an omen.[69] The closure of the German arm had a grim portent, and it was still unclear whether the Japanese FEC was compatible with the British notion of an arcade either.

With Green in charge of Funland Trocadero, and understanding the pulling power of spectacular machines, Family Leisure invested heavily. In February 1994, it purchased Sega's *Virtua Formula* system, comprising four Formula One racing car cockpit simulators linked together.[70] Colin Mallery arranged the deal, explaining to me that Sega had never intended to sell the *Virtua Formula* system outside Japan, seeing it as a promotional device rather than an arcade machine. Despite this, Green insisted that the machine was needed for Funland, and Family Leisure paid the £225,000 cost.[71] In June of the same year, Green invested in a *Namco Ridge Racer Full Scale*, built into a full-sized Mazda MX5 car. Green reported that the game enjoyed considerable success in Funland, charging £5 per race and grossing around £5,000 per week.[72] Even at this location, though, the machine took a year of capacity play to recoup its investment.

Amusement Machine License Duty

In the 1994 autumn budget, Chancellor of the Exchequer Kenneth Clarke announced increases to taxes placed upon AWPs, but more alarming was a new tax on amusement-only machines, including videogames, due to come into effect in November 1995.[73] The Amusement Machine License Duty (AMLD) made all amusement machines subject to a £250 tax per annum. Clark justified the tax on the basis that it was unfair that AWPs were taxed, but amusements were not. When introducing the new tax, he stated, "I'm sure the measure will be welcomed by many parents, although maybe not by all children."[74] The apparent intention was not only to tax videogames, but to reduce the number of them available to the public—and especially children—and smacked of having moral hazard behind it. The general secretary of the British Amusement Catering Trade Association (BACTA), Alan Willis, warned that videogames were already "only marginally profitable,"[75] and thousands of games could potentially disappear from the industry if this tax came into effect. In late December, the details of AMLD became clear, raising even greater concerns about the future of videogames in British arcades. It was later revealed that AMLD would adopt similar formulas as the 1969 budget that had so decimated the British arcade, based upon the number of players that the game supported simultaneously: a two-player game such as *Street Fighter II* was subject to twice the tax annually; a game like *Gauntlet* or *Teenage Mutant Hero Turtles* would take four times the duty.[76] It became apparent that aside from single-player driving and simulator-type machines, any of the videogames typically found in arcades would be caught up in this aspect of AMLD, making them utterly unprofitable, and the prospect of machine beach bonfires and pier-throwing reared its head once again. If Willis's assertion that games were only marginally profitable before the AMLD was true, once the multiplayer rules were applied, it was unlikely that *any* videogame in Britain would be viable. The proposed duties now had an international dimension due to the large Japanese investments in the British coin-op industry. Alarmed by the news of AMLD, Sega's president, Hayao Nakayama, wrote to Michael Heseltine, president of the Board of Trade, expressing the Japanese company's grave concerns.[77] Nakayama reiterated the importance of videogames to Sega and that AMLD jeopardized the company's well-advanced investment in leisure opportunities in Britain. Shortly after the letter to Heseltine went out, Sega announced its intention to develop a £45 million SegaWorld family theme park, situated in London's Trocadero center, Piccadilly.[78]

SegaWorld would present a new vision of the British arcade, as informed by Japanese high-tech innovation. While billed as a theme park, SegaWorld was to be a massive amusement arcade including large, theme park–style rides. Based on three indoor parks that the company operated in Japan, it would be the first venture of its kind in Europe. The plans included a redemption area, sports area, simulation area, and amusements area, and would contain 200 coin-op videogames; therefore, the government's AMLD was in direct opposition to Sega's operating, manufacturing and distribution plans. Nakayama's letter made it clear that unless the tax were repealed, Sega would reconsider its plans for SegaWorld and its decision to base its European manufacturing and distribution in Britain. Nakayama sent a second letter later in the year, when Heseltine visited the British embassy in Tokyo; the letter reiterated Sega's position toward AMLD.[79] Following lobbying from BACTA and Sega, the government announced several concessions to AMLD. Cranes, redemption, and novelty equipment—medal machine types that the Japanese coin-operated manufacturing industry was now focusing on—were exempted from AMLD, but videogames remained under its scope. In April 1995, David Heathcoat announced further revisions to AMLD, exempting single-player videogames and pinball tables charged at 35p play or less.[80]

In the same month as the 35p play concession, the combination of the yen's continued strength and slowing sales of its aging MegaDrive forced Sega to reduce its 1994–1995 profit forecast by 46 percent of the previous year's figures, to £175 million.[81] The company asserted that the strength of the yen alone had cost the company Y8 billion (£60 million) in overseas earnings,[82] but that Sega's European division, as well as its commercial failure in Germany had generated a colossal net loss of Y9 billion.

Faced with this damning news, Sega began a "retreat from export markets."[83] For Britain, where Sega had invested in manufacture and had plans underway for SegaWorld, this did not mean retreat, but entrenchment. Britain would become Sega's international outpost, and SegaWorld its prize. Furthermore, while Britain had been an important European manufacturing hub for Sega since the late 1980s, the new economic realities of the strong yen now made it cost effective for Sega to manufacture arcade machines in Britain and export them to Japan. Managing director Shunichi Nakamura explained that "*Sega* will import the products it makes overseas into Japan, as the high yen will make them cheaper."[84] British coin-operated manufacturers and distributors were now not only owned by Japanese companies, but were part of the Japanese manufacturing landscape—producing videogames to fill Japanese arcades.

Sega's Trocadero SegaWorld application was approved by the Westminster City Council, who had been such a key part of the AAAG, and construction began on the site. Family Leisure's Funland arcade still operated from the Trocadero site while construction of its competitor attraction went on above. In October 1995, weeks before AMLD came into force, the government announced a third and final concession (!)—that multiplayer videogames at less than 35p a play were also exempt.[85] AMLD still applied to the most expensive and spectacular machines manufactured by Sega, but the £250 tax was more readily recouped on spectacular and popular large machines. However, in the year between AMLD's proposal and its introduction, only the very largest arcades had invested in these videogames. Instead, the British arcade industry remained in a state of alert, awaiting a clearer sense of the impact of AMLD. Operators now tried to imagine what British arcades could look like with videogames at 30p a play—a figure that effectively removed any new Japanese centerpiece machines from the machine mix—but not older, proven machines like *Out Run* or *Sega Rally*.

It is worth noting that the Sega Saturn home console was released in Britain in July 1995, and the Sony PlayStation in September the same year. While the Saturn was considered a commercial and critical failure due to its high price, limited stock, and poor 3D capabilities, the PlayStation became popular in Britain, laying the foundations for the widespread adoption of home videogames today. The PlayStation sold 700,000 units by April 1997.[86] Both machines were notable for their ability to emulate 3D arcade games at home in the same way that the SNES had with the 2d *Street Fighter II* five years before. As a Saturn owner at the time (and later a PlayStation owner), I can attest that games like *Sega Rally, Virtua Fighter*, and my favorite, *Virtua Cop*, were faithful equivalents of the arcade games, yet they did not replace the arcade experience, but rather supplemented it. For me, the pleasure of these home consoles was in the relationship between arcade and home. While home consoles had not yet supplanted the arcade, the Saturn's commercial failure placed further pressure on Sega's overall income, damaging operating profits and ultimately forcing it to reappraise its entire business position. By now, Sega was already committed to its SegaWorld theme-park/arcade project.

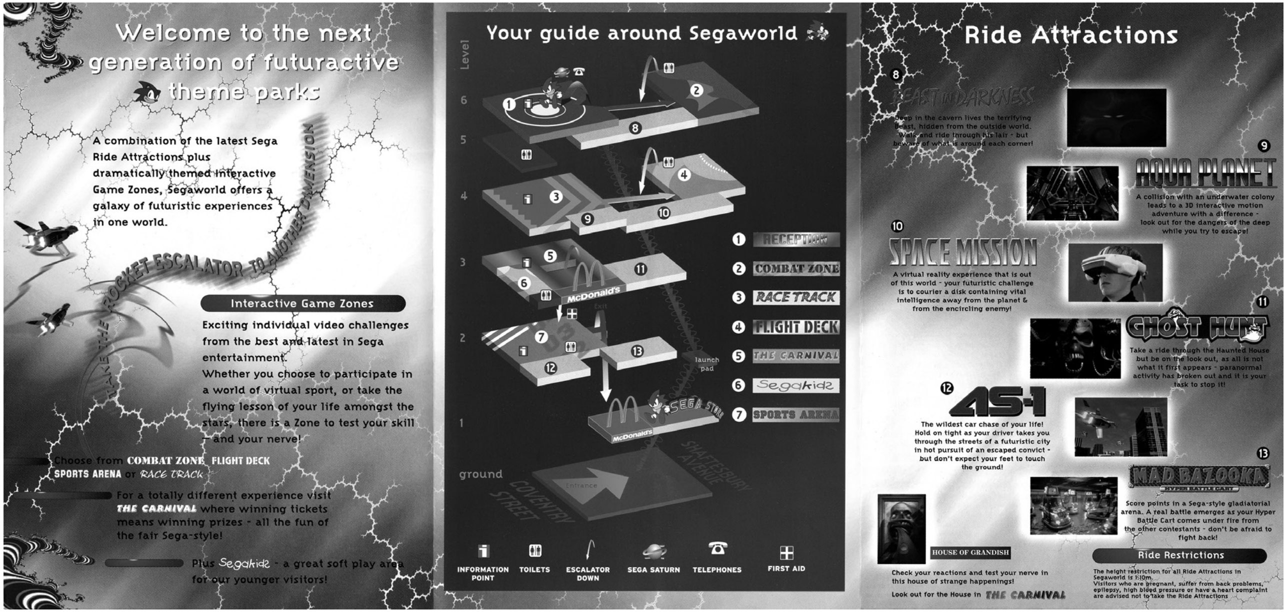
SegaWorld London

On September 7, 1996, SegaWorld opened to the British public. However, the venue didn't meet the lofty expectations set by its promotional buildup.

SegaWorld was designed to occupy seven floors of the Trocadero complex, entertaining up to 3,000 visitors who would enter via a spectacular rocket escalator that took them to the building's top floor. SegaWorld featured six themed zones: Sports Arena, Flight Deck, Race Track, The Carnival, Sega Kids, and the Combat Zone; and six major rides, including an interactive ghost-train ride and dodgems equipped with ball-firing bazookas and score tracking (figure 9.2). The venue also included hundreds of Sega arcade videogames and the inevitable AS-1 simulator. Despite the investment, reviews of SegaWorld were lukewarm at best, generally critical of the long queuing times and the unimpressive nature of the major rides. John Tribe, writing for *The Times*, described the experience as "two and a half hours of queues and malfunctions, punctuated by the (very) occasional thrill."[87] Despite the criticisms of the theme-park elements, almost all the reviews mentioned the quantity and quality of arcade videogames in SegaWorld. Tribe summed up the issues with the venue as follows: "The rides are a sideshow. The main space is devoted to playing computer games—acres of them,"[88] and the rides were "unimaginative, largely old-tech." *Coin Slot's* Norman Leftly was similarly critical: "I'm sorry Sega, six rides do not a theme park make," but saw the site as a wonderful arcade. Leftley summarized SegaWorld as "an arcade that dazzles and amazes. The redemption floor is one of the largest I have seen, and it manages to create an atmosphere of fun that has you reaching for your spare change so that you can join in. The layout gently eases you past each of the attractions with subtlety that only becomes noticeable as you arrive at the exit."[89]

It was evidently a wonderfully designed and fitted (videogame) arcade, but a terrible amusement park. SegaWorld's ambitious promotional material had prepared for 1.75 million visitors,[90] but it attracted nowhere near these numbers. It later transpired that the lease agreement required SegaWorld to generate £6 million profit by 1999; otherwise, the space would be returned to Trocadero holdings.[91] On October 11, 1996, just a month after the opening, it was announced that Byron Evans, SegaWorld's general manager, had left the company,[92] and in December, a relaunch event was announced for SegaWorld.[93]

The growing industry consensus was that SegaWorld's critical failure was due to irreconcilable differences between Japanese and British notions of an arcade. Much like the failure of Sega's FECs in Germany, SegaWorld Trocadero was evidence that "Japanese tastes differ so greatly from those of Europeans."[94]


TAKE THE ROCKET ESCALATOR TO ANOTHER DIMENSION
Level
6
5
4
3
2
1
ground
Exit
launch pad
SEGA STORE
McDonald's
Entrance
COVENTRY STREET
SHAFTESBURY AVENUE
1
2
3
4
5
6
7
8
9
10
11
12
13
HYPER BATTLE CART

Welcome to the next generation of futuractive theme parks

A combination of the latest Sega Ride Attractions plus dramatically themed interactive Game Zones, Segaworld offers a galaxy of futuristic experiences in one world.

Interactive Game Zones

Exciting individual video challenges from the best and latest in Sega entertainment.
Whether you choose to participate in a world of virtual sport, or take the flying lesson of your life amongst the stars, there is a Zone to test your skill – and your nerve!

Choose from COMBAT ZONE, FLIGHT DECK, SPORTS ARENA or RACE TRACK

For a totally different experience visit THE CARNIVAL where winning tickets means winning prizes - all the fun of the fair Sega-style!

Plus Segakidz - a great soft play area for our younger visitors!

Your guide around Segaworld

① RECEPTION
② COMBAT ZONE
③ RACE TRACK
④ FLIGHT DECK
⑤ THE CARNIVAL
⑥ Segakidz
⑦ SPORTS ARENA

INFORMATION POINT
TOILETS
ESCALATOR DOWN
SEGA SATURN
TELEPHONES
FIRST AID

Ride Attractions

⑧ BEAST IN DARKNESS

Deep in the cavern lives the terrifying Beast, hidden from the outside world. Walk and ride through his lair - but beware of what is around each corner!

⑨ AQUA PLANET

A collision with an underwater colony leads to a 3D interactive motion adventure with a difference - look out for the dangers of the deep while you try to escape!

⑩ SPACE MISSION

A virtual reality experience that is out of this world - your futuristic challenge is to courier a disk containing vital intelligence away from the planet & from the encircling enemy!

⑪ GHOST HUNT

Take a ride through the Haunted House but be on the look out, as all is not what it first appears - paranormal activity has broken out and it is your task to stop it!

⑫ AS-1

The wildest car chase of your life! Hold on tight as your driver takes you through the streets of a futuristic city in hot pursuit of an escaped convict - but don't expect your feet to touch the ground!

⑬ MAD BAZOOKA

Score points in a Sega-style gladiatorial arena. A real battle emerges as your Hyper Battle Cart comes under fire from the other contestants - don't be afraid to fight back!

HOUSE OF GRANDISH

Check your reactions and test your nerve in this house of strange happenings!

Look out for the House in THE CARNIVAL

Ride Restrictions

The height restriction for all Ride Attractions in Segaworld is 1:10m.
Visitors who are pregnant, suffer from back problems, epilepsy, high blood pressure or have a heart complaint are advised not to take the Ride Attractions

Figure 9.2

SegaWorld brochure, September 1996. Note the amusement park's six levels and theme park rides. Despite enormous investment and ambition, SegaWorld did not become famous as a theme park but instead for being perhaps the finest videogame arcade ever seen in Britain. Author's collection.

Despite repeated attempts at refining SegaWorld for a British audience over subsequent years, it never managed to reach its potential. It became apparent that Sega had not created a theme park, but it had built the largest and most impressive arcade in Britain. What was so tragic was that Sega did so on top of one of the largest and best-stocked arcades in the country; had SegaWorld been anywhere else, then the outcome might have been different. The two sites cannibalized each other's audiences. The elements of SegaWorld that reviewers were enamored with were not the expensive, bespoke rides, but the dedicated arcade videogames that could be found in any major British arcade—including the one in the same building. Consequently, SegaWorld caused enormous damage to Funland's earnings. Family Leisure's Michael Green explained that "within three weeks our income dropped by 70%, which meant we were actually running at a loss."[95] Once one of the most lucrative arcades in Europe, Funland was now a serious burden to Family Leisure . . . and on the other floors of the same building. SegaWorld was a failure.

In January 1997, it was announced that Sega was to merge with Japanese toy manufacturer Bandai. The merger, effective from October 1, 1997, would create a new company called Sega Bandai.[96] Sega's president, Hayao Nakayama, took a subordinate position as representative director and vice chairman, and the new company would have a far broader remit, encompassing "coin-op and consumer games hardware and software, telecommunications, karaoke, toys and children's clothes, operation of amusement centres and amusement theme parks, character merchandising, music and films."[97]

Sega Bandai downsized its operations, closing its French subsidiary, and Deith Leisure took over its order book and territory. In August 1998, Bob Deith was promoted to chairman of Sega Amusements Europe, and Colin Mallery became managing director of Deith Leisure.[98] Shortly afterward, Deith Leisure closed its New Maldon factory and the Sega manufacturing rights were awarded to Electrocoin.

In May 1999, following write-offs of its overseas FECs, unsold stocks of its Saturn home console, and poor reception of its subsequent Dreamcast console, Sega announced a consolidated net loss of $378 million for 1998–1999.[99] This followed a $299 million loss in the previous year. This resolutely marked the commercial failure of Sega's domestic console plans and international arcade strategy. In response, Sega announced that it was "left with no alternative but to close 100 small arcades and reduce its work force by as much as 25 percent." It immediately began to downsize its British operations and explored the sale of its British arcade interests, including SegaWorld and Deith Leisure/SAE.

In September 1999, Sega began the final wave of sell-offs and disposals as it withdrew from international markets. While Sega's losses were certainly due to the scale and ambition of their global arcade expansion and the development and release of two unsuccessful home consoles, other Japanese manufacturers also withdrew from the coin-operated market. Japanese manufacture Jaleco announced the closure of its entire European division beginning August 31, 1998, with all staff made redundant.[100] In October 1996, Namco bought Atari's Tipperary factory,[101] and Atari withdrew from the British market, leaving Namco to market sales of its products.[102] In June 1999, Namco Europe announced the closure of the Tipperary videogame factory, first opened by Atari in 1978, which it had purchased only three years earlier.[103] Aside from the significant damage this had upon Tipperary's economy, the closure of the factory perhaps signaled most clearly the final end of European arcade videogame manufacturing aspirations. Namco Europe managing director Mike Nevin explained: "We have been unable to keep production at optimum levels for some time now and this has had a significant impact on our ability to be competitive on price in the current market. All future Namco Europe production requirements will be contracted out to third parties."[104]

SegaWorld was taken over by Family Leisure, a deal negotiated by Mike Green,[105] who purchased the venue on a precarious lease for the value of the amusement machines it contained.[106] Family Leisure's engineers discovered that the Sega-built feature rides were in poor condition, and they were all scrapped. Michael Green told *Coin Slot*: "This is by the far the largest centre of its type in the UK and possibly the biggest in Europe, but things have not always run as smoothly as one would expect. We have a two-year development plan in place which will involve a great deal of further outlay in order to achieve the potential that is undoubtedly there."[107]

The purchase and refurbishment of SegaWorld, while negotiated under preferable terms, still constituted a major investment for Family Leisure, which planned to spend between £10 million and £12 million on the site.[108] But it also took place at a tumultuous time in the development of the British arcade. To pay for the refurbishment, Family Leisure sold its flagship Blackpool arcades; the Lucky Star was sold to Crown Leisure, and Fun Palace to the Silcock family of Southport.

Cromptons and Sega

In the stagnant coin-op market of July 2000, two British companies emerged as contenders for the purchase of Sega's British distribution rights. Both were purveyors of coin pusher and redemption machines: Crompton's Leisure Machines, run by Jim Crompton's son, Gordon, and Harry Levy Amusement Contractor Ltd., run by the former Crompton worker Harry Levy. Jim Crompton was still actively involved in the Crompton company, but his role was now primarily as elder statesman for the British industry, with his strong connection to the trade's showfolk past and more lucrative days. The conditions of Sega's sale insisted that an experienced Sega representative (in this case Colin Mallery) would join the purchasing company to ensure continuity of service and protect Sega's interests.

The decision of which company to sell to was largely based upon sales proposals sent to Sega. According to Mallery, Levy's proposal was cautious, characterized as "Look, I'll buy a hundred machines over a period of this time, pay you upfront, no problem, that's it, done."[109] This was a measured response, conscious of the challenging realities of coin-operated machines in Britain at the time. In contrast, Crompton's proposal was far more ambitious, and apparently persuasive. Mallery explained: "Gordon Crompton is tremendous at putting together a deal, never mind a hundred machines, we're gonna do five hundred machines in a month sort of thing."[110] Captivated by the bold assurances offered by Crompton, Sega awarded it the distributorship. Mallery joined the Cromptons team (based in Ramsgate, a mile from my house), but it soon became evident that the contraction felt by the British market was so deep that it could not sustain the projected level of sales.

Where Are the Games and the Shift to Redemption?

By October 1997, the videogame contraction was continuing, with very few machines being produced for international sale. Driving games such as Konami's *GTI Club*, Namco's *Aqua Jet*, and Sega's *Virtua Striker 2* and *Lost World* were notable as the most interesting and popular games, but they sold in low numbers compared to the quantities in previous decades. By this point, the PCB market had all but evaporated; Capcom had pioneered sophisticated anti-copying PCB hardware, but the market was now so small that copying was no longer worth pursuing. PCB games were produced primarily for a Japanese market, with small numbers entering Britain as curiosities, such as Capcom's *JoJo's Bizarre Adventure* and the tournament-play favorite *Street Fighter III: Third Strike*. While these excellent games represent the pinnacle of arcade fighting-game development, they appeared in relatively few arcades and generated small but dedicated fan followings. The arcade videogame shifted from mainstream entertainment to a smaller part of machine mixes; as a result, arcade videogames and public play became the preserve of dedicated fans. In Britain, arcades changed focus once more—the deregulation of AWPs (see chapter 10) led to more floor space allocated for adults-only, higher-stakes gambling machines. The market demand for new large dedicated videogames dwindled, and instead operators invested their money in well-regarded five-year-old games. A 1997 *Coin Slot* feature remarked that "older dedicated machines such as *Virtua Racing, Daytona, Sega Rally* and *Alpine Racer* are still good earners and are selling well, but a lot of operators are reluctant to spend thousands of pounds on an unproven game."[111]

While the availability of new arcade PCBs declined through the 1990s, sales of dedicated videogames remained largely static, seen as an absolute necessity to draw customers to arcades. As an arcade-goer during this period, it seemed to me like a point of stagnation: while new games such as Sega's *Virtua Fighter*, *Virtua Cop*, and *Sega Rally* appeared in arcades, the majority of the machine mix remained familiar, often resembling a "greatest arcade hits of the 1980s" compilation—and for me, that was fine. While the arcades I visited sited different expensive, dedicated machines in their seafront entrances, once I'd worked deeper into the arcades, past the ranks of *Street Fighter II* cabinets, I'd find the same classic machines: *Double Dragon*, *Pac Land*, *Wonder Boy*, *Nemesis*, *R-Type,* and the like. British arcade operators faced a hugely challenging situation: the British economy was generally depressed following recession; while 10p AWPs and coin-pushers remained popular, inflation meant that income levels from them were low and slow; while *Street Fighter II* and other fighting games remained fairly popular, the machines were found everywhere from cafés to chips shops, they were too common to attract players to a specific arcade. At the same time, the large, dedicated machines that would draw visitors into an arcade were so expensive that operators might struggle to recoup their unit costs. Under these conditions, arcade operators became frugal and carefully planned their purchases; they explored various machine mixes, such as the introduction of redemption and more fruit machines, or stopped investing in machines and adapted to a different economic reality.

10 Gold Dust, 20p Fruit Machines, and Redemption

If chapter 9 offered an account of the videogame landscape in British arcades, it is equally necessary to trace the development of the wider landscape over a similar period. In the late 1980s, financial advisors for larger companies identified declining profits of their smaller arcades and recommended limiting their exposure. In March 1990, the Noble organization, one of Britain's largest amusement arcade chains, sold forty-three of its arcades and ten bingo halls.[1] This was almost certainly due to decreasing profits, and Noble's financial director, Robert Whitelaw, explained that the company was refocusing its business and concentrating on fewer, larger units. The company sold one third of its arcades, mostly those containing fifty machines or fewer. While Noble inadvertently prepared for the upcoming recession by shedding unprofitable sites, other companies, including the entertainment group Rank, decided to invest and consolidate. In the same month as Noble's sale, Rank sought to buy Mecca Leisure, the large company that owned bingo halls, arcades, and Associated Leisure's sales, operation, and manufacturing arms.[2] Although Rank's initial offers were declined by Mecca's board, the purchase was eventually successful in June 1990 for £544 million.[3] Rank was now Britain's largest coin-operated company, with more than 50,000 machines[4] and 179 bingo halls around the country. The purchase was so significant that Rank now owned more than 15 percent of the bingo clubs in Britain (179 clubs out of 1,020), making up an estimated 26 percent of all registered bingo players in Britain. The company's reach was so large, and control of the British arcade and bingo market so dominant, that it was referred to the Monopolies and Mergers Commission (MMC) and the Office of Fair Trading (OFT)—government bodies established to prevent anticompetitive trading practices. Peter Lilley, British Trade and Industry secretary, announced that the government was concerned by Rank's ownership of thirty-one of the seventy-two bingo halls in Greater London,[5] informing them to sell twelve of the clubs or violate antimonopoly laws.

Naturally, Rank sold the least profitable clubs and took enormous control of bingo in Britain and acquired more arcades. While the company's dominance of bingo and willingness to expand while on the brink of recession are interesting in their own right, for the story of the British arcade, it is the company's purchase of Associated Leisure that is most significant event. Rank now owned one of the largest distributors in Britain. Yet Rank's purchase was terribly timed, happening on the cusp of a deep recession. Furthermore, the scale and type of its investment increased its exposure to financial risk. Each of its newly purchased bingo halls needed renovation and investment, and this occurred at the point where disposable public income, precisely the kind spent in arcades and bingo halls, went down.

Following the North American arcade shakedown of 1985, the late 1980s had seen a considerable shift in the American arcade industry, with the rise of the Family Entertainment Center as a general model, and a move toward making arcades less family friendly and more child-oriented. My opinion is that a family-friendly place should cater to all the members of the family—young and old—and that *family friendly* is really a euphemism for *juvenile*. This resulted in the creation of arcade play spaces that catered to children's birthday parties and an expansion of redemption; North American arcades had a long history with redemption machines such as *Skee Ball* for decades, but the machines had gained little traction in Britain. Redemption as a model was largely unnecessary in Britain, as children could play coin-pushers and save their money winnings if they wished. However, in 1990, the British market conditions appeared more amenable to redemption. Jim Crompton introduced Doyle & Associates' *Hoop Shoot* basketball-style redemption game in Britain. The game, popular in the US from the late 1980s onward, rewarded players with tickets depending on the number of balls thrown through the basket in a given time. Redemption became an emerging theme throughout British arcades and amusement venues in the 1990s, but its adoption was slow and hesitant.

The Failure of 20p

If the state of videogame supply was becoming increasingly difficult in the early 1990s, so was the profitability of fruit machines. The public were not spending money in arcades in the same levels as during the late 1980s, and high inflation had driven the cost of overheads up considerably. In a *Coin Slot* feature, operators estimated that in 1990, as the recession began to bite, machine takings reduced by a pound per week, while operating costs increased by another pound. A large operator such as Rank, therefore, faced a significant reduction of income. As the feature explained, "If you have 40,000 pieces of equipment out, that's £80,000 each week, or over £4m a year. The margins were never strong enough to absorb that kind of pressure."[6] And this further reduced operators' ability to buy new machines. It was estimated that the British industry accommodated 60,000 new Amusement with Prizes (AWP) machines each year, but in 1990, this number decreased to around 50,000.[7] In 1991, there were predictions of this reducing to around 40,000 machines, while others suggested an even deeper decline, echoing the reductions seen with videogames.[8] AWP manufacturers had little choice but to increase their machine prices to recoup their development costs, and this increased AWP costs and compounded the issue further. This may be one of the factors that contributed to the widespread adoption of low-tech AWPs during the early 1990s, which were less expensive than their feature-filled competitors.

Conscious of the economic difficulties, the British coin-machine industry proposed a change in AWP maximum stakes to 20p, which was accepted by the Gaming Board. The logic was that the increased stakes and jackpots would result in more income, recapitalize arcades, and enable reinvestment, offsetting some of the challenges that the industry was facing. In the early 1970s, the industry had implemented a change from 5p to 10p stakes that had led to another wave of investment. Following the approval of 20p play in 1991, manufacturers built new, higher-stake AWPs, and while they initially sold well, the machines, or rather the stakes on the machines, were roundly rejected by the public. Having fewer plays for their money proved unpopular, regardless of the potential jackpot, and following the first wave of sales, the new 20p machines remained with the manufacturers and in the distributors' salesrooms unsold. Unlike videogames, where changing the cost of play required fiddling with some coin-mechanism dip switches and an in-game debug menu, in a fruit machine, the values of winnings are stenciled onto the glass, are central to its play, and are subject to stringent regulation by the authorities. The stake and prizes are carefully balanced, an intrinsic part of the machine's attractiveness and its legal compliance. This made the conversion of unsold 20p machines in depth and expensive, necessitating wholesale replacement of parts. Instead of increasing income from AWPs that were now the backbone of the arcade industry, 20p play cost operators, distributors, and manufacturers money. One major operator blamed the failure of 20p for a 35 percent drop in net profits for 1991.[9] Bracing for a further reduction of AWP sales to 35,000 machines in 1992,[10] manufacturers begrudgingly increased their prices by a further 10 percent to "offset the damage from lower output."[11] The 20p solution compounded the stresses for operators, distributors, and manufacturers.

The weakness of the British economy made it attractive to foreign investors looking to pick up a bargain, and not just from Japan. In December 1991, German coin-operated market leader, Gauselmann, who held a 60 percent market share of German payout machines, purchased a large amusement center in a former theater in Cardiff.[12] A Gauselmann representative explained that the Cardiff arcade was similar to the 250 centers operated by its Spielothek subsidiary in Germany. The purchase enabled Gauselmann to test the British market, and it became the first of many purchases, followed in April 1992 with a second site in Swindon.[13]

British AWP manufacturers bore the brunt of the 20p play failure, and the manufacturers began to downsize through 1992. The Cardiff-based AWP manufacturer JPM made half of its 190 staff redundant, Bell-Fruit temporarily laid off 100 workers, and Barcrest cut 70 jobs at its Ashton factory.[14] Barcrest's managing director, John Wain, explained, "We have had to cut capacity in line with the reduction in AWP sales."[15] Much as Cromptons had done a decade before, AWP manufacturers sought new licenses and diversified their product range, focusing on export markets and actively building machines for different international gaming laws and restrictions. AWP manufacturer Bell-Fruit diversified more than most, having obtained the license for Enid Blyton's 1950s *Noddy* children's books. Utterly unsuitable for a fruit machine, it set up an educational children's game subsidiary, Jumping Bean Co.,[16] and began to make home computer software and kiddies' rides. Jumping Bean Co. made *Noddy's Big Adventure* and *Noddy's Playtime*, described as "fun-filled educational software packages,"[17] for the Commodore Amiga, Atari ST, and Microsoft Windows home computers. The games were released in November 1992, were well received and sold in good numbers. Shortly afterward, in January 1993, Bell-Fruit quietly announced its intention to reenter videogame manufacturing by presenting a prototype machine at trade events called *Zool*.[18] *Zool* was a *Sonic the*

Hedgehog–style platformer where the player controls a nimble ninja who collects sweets; the game was initially developed for the home computer by Gremlin Graphics. *Zool* had been released on home computers in October 1992, so Bell-Fruit's decision to port it to the arcade was peculiar on many levels, other than representing a hardware proof-of-concept. The decision to port *Zool* is even stranger when we consider that the Amiga, Atari ST, and Windows systems were subject to enormous levels of software piracy—put simply, anyone who wanted to play *Zool* already owned it (and realized that it wasn't all that good). While prototype machines were developed, *Zool* never made it to the arcade as a wide-scale release. Despite announcing its plans in January 1993, Bell-Fruit was still working toward an arcade videogame release some two years later.

At the January 1995 Amusement Trades Exhibition International (ATEI) trade show, Bell-Fruit finally demonstrated its *Rise of the Robots* machine[19] (which it had announced in February 1994).[20] While the machine was robust and the game ran well, there was no avoiding that the game, again, had been available on home computer and console systems for almost six months by the time it entered arcades. *Rise of the Robots* made no significant impact on the arcade, and neither did *Zool*, but Bell-Fruit's developments mark the willingness to respond to the unfavorable trading conditions encountered in the 1990s. There was no avoiding the decline in British AWP sales during the early 1990s, and while diversification and licensing were viable—if slow—strategies, many pursued export markets but were forced to downsize or cease trading entirely. Electrocoin, whose videogame distribution was performing well due to its Capcom license but whose AWP arm suffered like other manufacturers, became increasingly internationally focused, even producing *Pachislot* machines for Japan.[21] The company had aggressively targeted export opportunities in the early 1990s, and this investment began to pay dividends, with significant trade in Germany, France, Scandinavia, Turkey, Israel, Kuwait, Saudi Arabia, Greece, and eventually Russia.[22]

Licensed Fruit Machines

The *1993/1994 Gaming Board Report* captured the crisis in AWP manufacturing, noting "modest improvement in volume of sales," attributed to increased international exports. There was a move toward making games based around recognizable cartoon, television, or board game licenses, and these made up a large proportion of the new game sales. In September 1992, AWP manufacturer Maygay Machines produced a fruit machine based around Parker Brothers' *Monopoly* board game, published by Waddingtons in the UK, taking a great deal of time to secure the license legally.[23] The time and expense associated with license negotiations proved a sound investment, and Maygay described the game as "recession proof," with players rapidly identifying with the game because of the license and—critically—reporting that the game attracted "lapsed players."[24] *Monopoly* sounded like the perfect machine for the British market, and it sold in enormous numbers; in five months, Deith Lesiure sold 6,000 machines.[25] Maygay swiftly followed with another licensed machine based on the 1970s *Pink Panther* cartoon, and this also tested well. In May 1993, eight months after *Monopoly* was unveiled, Maygay announced that it had sold over 12,000 *Monopoly* and *Pink Panther* machines[26] which, based on the pessimistic estimations, constituted more than a quarter of new British AWP sales. From this point forward, there was a scramble for AWP manufacturers to obtain memorable licenses, and many new fruit machines were themed around popular culture, television, film, and even videogame characters. As the *1993/1994 Gaming Board Report* pointed out, licensed machines included "audio samples, the voices of actors from the television series and theme music or associated catch phrases."[27]

Gold Dust—the Rise of the AGC

Diversification was also a focus for large operating companies such as Rank that were struggling because of their large stock of machines and exposure to recession across all their leisure operations. In 1993, Rank started converting sites to Quasar laser-tag venues, alongside rolling out the mini-FECs it had tested with the Stockport installation in 1991.[28] Rank's first Quasar venue was at the Stoke Festival Park, Staffordshire, and also took cues from the American amusement model, "situated between a multi-screen cinema complex and a bowling alley."[29] This was Quasar's 100th British installation. In June 1993, Bass Leisure Machine Services (BLMS), a company initially established to manage coin-operated machines in Bass brewery tied pubs, unveiled its first Gold Dust arcade in Staines High Street.[30] Gold Dust became a model for adults-only, gambling-focused arcades from the mid-1990s onward. Adopting some of the strategies employed in Jimmy

Thomas's Showboat arcade openings, the first Gold Dust center was opened by television soap personality June Brown, famous for playing Dot Cotton in BBC1's *EastEnders*. BMLS's Roger Withers explained that the Gold Dust very much focused on a similar target audience to Thomas's Showboat: "It is our aim to target the shopper. Therefore, the decor and ambience of the centre has been designed to create a feeling of warmth and security."[31]

Due to the center containing only AWP machines, being adults-only, and perhaps gradually changing public attitudes toward gambling, BLMS faced little opposition to its proposal. Withers explained that "the police and the Chamber of Commerce has given us its full backing"[32] and announced the intention to open four more Gold Dust centers by the autumn. By excluding under-eighteens, which was an urban arcade policy for British Amusement Catering Trade Association (BACTA) members anyway, the Gold Dust centers were able to install machines with higher stakes and jackpots, and the small sites were easily staffed by small numbers of employees.

It is perhaps at this point, around 1993, that we see a shift in the British leisure landscape. On the one hand, we have the rise of the Family Entertainment Centre (FEC) venue, such as those being developed by Sega that removed AWP machines and focused upon juvenile and family play, and on the other hand, we also have the Gold Dust adult gambling arcades that removed the amusements and focused on fruit machines. This left the traditional amusement arcade, with its mixed fare, somewhere in the middle and increasingly without a role. This was especially true for many inland arcades which, unlike arcades in seaside resorts, lacked the destination factor that guaranteed visitor numbers to play videogames and AWPs. Arcades in large seaside resorts continued to offer their traditional machine mix as best they could and struggled on, many also experimenting with redemption. Others abandoned amusements and adopted the Gold Dust model. The industry began to segregate in Britain into four parts: *family-friendly entertainment centers,* with videogames, simulators, and rides; *amusement arcades*, with a mix of videogames, AWPs, and novelties; a *traditional seaside arcade;* and Gold Dust–style *adults-only gaming centers,* which focused on gambling.

At this point, the British government commissioned a major review of stakes, prizes, and the role of gaming and gambling in society, leading to the Deregulation (Gaming Machines and Betting Office Facilities) Order of 1996.[33] The Deregulation Order reflected changing public attitudes toward gambling following the introduction of the National Lottery and its economic impact on arcades and betting shops. The Deregulation Order permitted "cash-only" machines (as opposed to machines offering cash or tokens), with a maximum prize of £10, on premises where children have restricted access.[34] This meant that inland arcades, such as the Gold Dust high-street chain, could now offer larger, more attractive cash-only jackpots that resulted in higher levels of income. Seaside arcades could do the same by segregating the floor space into adults-only areas. Additionally, the Deregulation Order permitted AWPs in betting shops for the first time, limited to two machines per shop. While the changes introduced by the Deregulation Order stimulated arcades' AWP income, it later became apparent that permitting AWPs in betting shops destabilized public behavior and had wide-reaching negative repercussions on the arcade industry.

During the early 1990s, attitudes toward gambling in Britain were changing; at the same time as the public turned away from AWPs, proposals for a National Lottery were approved. On November 19, 1994, the National Lottery had its first draw in Britain, and the coin-operated industry saw an immediate decline in earnings, as people had yet another option for low-stakes gambling. This was further exacerbated in March 1995 when National Lottery Scratchcards were introduced, allowing anyone over the age of sixteen to purchase a card from participating newsagents or shops. In June 1995, a London arcade operator lamented that regular customers now had "Scratchcards in their pockets and less money to play the machines,"[35] observing that the profiles of AWP and Scratchcard customers appeared to be the same.[36] The following week, it was estimated that Scratchcards had reduced arcade sector income by 11 percent, and BACTA labeled them as "nothing more than paper fruit machines."[37]

In addition to the all-cash AWPs and older videogames, this period saw British arcades finally exploring redemption in earnest. Unlike the introduction of videogames, pool, and AWPs to an arcade, which could be done cautiously by installing a single machine, redemption necessitated a minimum threshold of investment to operate. There need to be sufficient redemption machines for a visitor to accumulate tickets, and then space and staff must be allocated so that prizes can be displayed and collected. Therefore, while redemption is not effective in small arcades, cranes, prize-givers, and even Japanese medal redemption machines were and continue to be adopted across the country. From the late 1990s, many arcades installed coin-pushers with medal prizes, stuffed-toy cranes, and AWPs, and from

1997 onward, redemption, already so accepted in North America, became a visible feature of the changing British arcade landscape.

Coin-pusher manufacturers expanded their range, implementing redemption-ticket dispensers to their machines. These machines dispense tickets as a player inserts coins or receives winnings, and when playing, it isn't always clear what triggers the rewards, but seeing tickets curl onto the plush arcade carpet is a compelling incentive to keep playing. One of the leading British manufacturers of redemption machines was Harry Levy, headed by a former Cromptons worker who began making coin-pushers in the same town as Cromptons. Harry Levy machines developed a reputation for quality and innovation during the 1980s and 1990s, and by the mid-1990s, the company advocated and supplied redemption machine solutions. Ray Britton of Harry Levy explained his view that redemption was a way that arcades could compete in the face of the "continual growth of fun parks and shopping malls"[38] seen at the time. Britton offered a detailed discussion of the economics of redemption in Britain: Usually 75 to 90 percent of vended tickets were redeemed, with approximately 20 percent of the tickets being saved long term or lost. Redemption machines became popular in many arcades, but some operators remained wary of the staff and space costs. Scarborough's Jimmy Corrigan was one vocal critic of the model: "We do not use redemption machines anymore. I view my arcade as a means of vending time to holidaymakers. That is why the majority of my machines are on 2p. Visitors can spend their time playing such machines without quickly running out of pocket money. I like to offer machines that keep people in the arcade."[39]

The critical difference between redemption and traditional AWP machines like fruit machines and coin-pushers is that, apart from the 20 percent of tickets saved or lost, playing always results in a prize for the players. Even if it is a penny sweet, a keyring, or a spool of tickets, this is still an additional outgoing cost to the operator. In contrast, when playing a coin-pusher, most players feel compelled to feed winnings back into the machine, and the same is true for all but the coolest fruit machine players. The pleasure of playing the games comes from the time spent interacting with them, not the winning (this is in essence the definition of AWPs). As a result, some in the industry viewed the "swagman," the wholesaler who supplied the novelties and prizes that were exchanged for tickets, as the ultimate beneficiary of the redemption investment.

The year 1997 marked a point of contraction and consolidation in the British arcade sector as the impacts of the legal and social landscape were felt. In February 1997, Gauselmann, the German arcade owner that—like Japanese companies—began investing in Britain's arcades and announced its purchase of the fruit machine pioneer Bell-Fruit following almost a decade of industry contraction.[40] In November 1997, in an attempt to calculate the impact of the Deregulation Order of 1996, BACTA commissioned the Henley Model, a census of the British coin-operated landscape. While there is nothing to contextualize this data against, it offers a useful snapshot of the British arcade sector. The census revealed that there were nearly 500,000 coin-operated machines in Britain, 250,000 of which were AWP and gambling.[41] There were 200,000 kiddy rides, quiz machines, cranes and other miscellaneous novelty machines, yet only 50,000 arcade videogames were being operated and there was a similar number of pool tables.[42] That number of videogames shows a 50 percent decline in the number that had been presented in the Cinema Amendment Act only ten years earlier.[43] This illustrates the dominance of the AWP in British society, the impacts of reduced North American and Japanese videogame production, and the long shadow of the Amusement Machine License Duty (AMLD). Of the AWP machines in Britain, 35 percent were located in pubs, 29 percent in amusement arcades, 14 percent in adults-only gaming centers, and the remainder in bingo clubs, licensed betting offices, and ancillary locations such as motorway services.[44]

In July 1998, two years after the Deregulation Order, the British government increased the adults-only fruit machines jackpot to £15, and this signaled a way to escape the dwindling returns of amusement arcades.[45] Without videogames to attract customers, home videogames becoming increasingly compelling, no new stock from Japan or North America, and income from everyday 10p fruit machines depressed, the solution was to increase stakes and adopt adults-only machines. This is the point where British amusement arcades changed in character and where public play was segregated—not by becoming juvenilized with videogame FECs, as was Sega's grand vision, but by economic pressure, lack of product, and a necessary shift to adult gambling. While the expansion of high-street, adults-only arcades such as Gold Dust, as well as the inclusion of fruit machines in betting shops, ensured that the higher jackpot machines were readily available to the public, seaside arcades would need to remodel and section off areas in order to install these machines. Yet, the availability of higher-stakes machines in Gold Dust–style arcades inevitably reduced the number of people playing the seaside arcade.

The final years of the 1990s created truly difficult trading conditions for British arcades and challenged the arcade's role within British society that had established over the preceding 100 years. While the seaside arcade remained a feature of a coastal resort, with few novel or attractive new videogames being produced (and even fewer being bought by operators), the operation of quaint, lower-jackpot machines, and their segregated areas with adult machines, its clientele shrank. With strengthening competition from home videogames and high-street, adults-only Gold Dust arcades, not to mention the pressure of the National Lottery, it became more difficult than ever to see the role of the amusement arcades. For inland arcades that adopted BACTA's voluntary policy of banning minors, the £15 increase was welcome and relatively trivial to implement. These arcades simply installed the £15 jackpot machines and removed their videogames when they failed or stopped generating sufficient income. Inland arcades became gambling-focused. Many seaside arcades adopted adults-only areas, some resigned to diminishing returns, low investment, and low maintenance, and others sold out.

If the 1990s had begun a total reconfiguration of the British arcade landscape, then the project was completed in the 2000s. And while vibrant arcades and those in the largest seaside and urban locations continued to generate acceptable income, the same was no longer true in the smaller seaside resorts. BACTA's annual conference in December 1998 highlighted the plight of the smaller British seaside arcade, and the consensus was that it had now become a "struggle to earn a reasonable living"[46] from a seaside arcade. One operator, Pat O'Neil, raised a plea to George Howarth, a Member of Parliament, and Peter Dean, chair of the Gaming Board, who attended the event, asking them to "please help us if you can."[47] While Dean appeared sympathetic to the industry's concerns, he suggested that no concessions could be made until it was clarified (yet once more) whether it was socially acceptable for British children to play AWPs. This comment betrayed the fact that while Graham's 1988 *Amusement Machines: Dependency and Delinquency* report may have silenced the Amusement Arcades Action Group (AAAG), the moral concerns and political distaste (if not embarrassment) surrounding adolescent gambling remained. By liberalizing gambling by adults and squeezing returns for amusement arcades that made machines available to all, the government were forcing an end to under-eighteen gambling that had been introduced by the 1960 Gaming Act by default. Once more, the character of the British arcade was being redefined by government legislation, or rather inaction motivated by prejudice. In March 1999, the spring budget was announced, but it contained no concessions for seaside arcades despite industry pleas. BACTA vice president Simon Thomas warned that the character of seaside resorts was now gravely at risk, and "the Government cannot remain indifferent to the decline of these British institutions."[48] It transpired that Dean was not referring to any short-term consideration of the social acceptance of amusement arcade gambling, but rather a far wider and more comprehensive review of gaming and gambling in Britain.

11 A Historic Accident

By the turn of the millennium, the British seaside arcade was under enormous existential pressure. Arcades throughout Britain had allocated greater proportions of their floor space to adults-only, higher-jackpot Amusement with Prizes (AWPs), and while this was reasonably straightforward in urban arcades, at the seaside these changes created implicit tensions with the whole-family entertainment character of the arcade. Segregating sections of seaside arcades for adults was at odds with the showfolk's welcoming approach to family entertainment, but it was largely an economic necessity. Put simply, the sectioned-off adults-only areas, with their saloon doors and legal warning signs, created an uncomfortable contrast to the adjacent kiddie rides, coin-pushers, traditional AWPs, and a smattering of dedicated driving and shooting videogames.

But while this tension didn't help, the real issues that seaside arcades faced were the long shadow of the early 1990s recession and the changes in attitudes toward leisure that followed. While the high levels of unemployment seen during the recession were over by the early 2000s, employment opportunities were unequally distributed around Britain. Economic growth was greatest around major cities, with a strong north-south divide, and formerly popular and prospering seaside resorts faced high levels of unemployment. Furthermore, as the British economy recovered in the late 1990s, budget airlines such as EasyJet and Ryanair, which offered flights-only international travel at a fraction of previous costs, became an exciting feature of British tourism. Prior to this point flight-only tickets from Britain had been expensive and often associated with business travel; for most people affordable flight travel was associated with organized package holidays. Britons who might have once holidayed in British seaside resorts found international travel cheaper and more attractive than domestic visits. They traveled abroad in larger numbers, and seaside resorts became emptier, merely the nostalgic preserve of older generations. As seaside holidaymaker numbers decreased, so did investment in British resorts, which compounded the problem. British seaside resorts got a reputation as tacky, worn-out anachronisms. Seaside locations like Thanet, where my hometown of Broadstairs is, were teasingly referred to as "the Costa Geriatrica." Seaside civic councils, often staffed by former arcade-owning showfolk, worked hard to attract visitors in spite of their decreasing budgets, but the battle was difficult and was often a managed retreat. British seaside resorts became poorer, visited by fewer tourists, and resort amenities, including amusement arcades, made less money. While the largest resorts still attracted visitors, the smaller ones saw their incomes dwindle.

In 2000, the British government commissioned the *Gambling Review Report* from Alan Budd, which summarized their major review of gaming and gambling in Britain that the Gambling Commission's Peter Dean had alluded to when the industry had sought support some three years before. The report, published in July 2001, sought to advise politicians on ways to radically overhaul gambling and betting in Britain, much as the 1960 Gaming Act had. The report advised that public attitudes to gaming and gambling had changed significantly in the forty years since the 1960 Gaming Act, especially since the introduction of the National Lottery in 1994, and the recent but impactful deregulation of AWPs and £15 fruit-machine jackpots. Instead of proposing an increase of regulation in Britain, the report advocated a "massive deregulation of gambling laws, with some tightening of controls, specifically to protect the young."[1] Its key recommendations to politicians was that government should "simplify the regulation of gambling" and "extend choice for adult gamblers."[2]

It proposed that this be done through extensive casino liberalization in Britain, undoing the Gaming Board's 1969 work that geographically centralized hard gambling. It also suggested the removal of the demand test, which allowed authorities to refuse betting shop, bingo hall, or casino applications if there was insufficient evidence of an unmet public demand for gambling. For those looking to expand or set up new markets—especially around the emergent online and networked gambling technologies—this was excellent news. Under *Budd*'s proposals, local authorities had a duty to license any premises that did not breach three core principles: that gambling should not be a source of crime or disorder; that gambling occur in a fair and open way, and that children and other vulnerable people be protected from gambling. Assuming that these principles could be assured, the *Budd Report* advocated the removal of restrictions to casino locations, permitted a wider range of gambling activities, and allowed casinos to install "slot machines with unlimited stakes and prizes."[3] This last point was a hammer blow to the already-besieged British arcade industry. Profitable adult gambling was liberalized in high-street betting shops and new casinos could be built wherever proposed, while collective family arcade play was considered out of step with the *Budd Report*'s views.

While the *Budd Report* was clearly beneficial to British casinos, betting shops, and bingo halls, the issue of under-eighteen gaming and amusement arcades remained contentious. The thrust of the *Budd Report* centered around expanding adult opportunities for gambling on the basis that minors were protected, and the traditional seaside arcade was deemed incompatible, or at least a source of tension, with the proposals. The report described Britain as "unique, in the western world, in allowing children to play on gaming machines."[4] It attributed this to a "historical accident following the existence of seaside amusement arcades which included simple mechanical games"[5]—namely, the conditions that enabled the expansion and profitability of the British arcade (that is, the arcade as space for the whole family). Seeing children as vulnerable members of society, the *Budd Report* panel "considered banning access of under-18s to all gaming machines,"[6] but it relented, instead suggesting further restrictions. The *Budd Report* proposed that the AWP machines that had been available to minors since the 1960 Gaming Act, now referred to as "cat D machines," should have their stake frozen at a maximum of 10p per play and jackpots restricted to £5. As before, minors were not permitted to play any higher-stakes AWP machine.

While the *Budd Report* only offered guidance to the government, it was highly influential and applauded by many, and the majority of its key proposals were enacted in the 2005 Gambling Act. The frozen stakes set by the 2005 Gambling Act were introduced on September 1, 2007, and the 10p play and £5 jackpot limits remain in force today.

This happened at possibly the worst time for the public perception of the British seaside resorts. As holidaymakers were abandoning them in favor of cheap EasyJet and Ryanair jaunts, once-profitable hotels—both large and small—were sold or converted to multiple-occupancy housing, and seaside resorts permanently lost much of their capacity to support anything but day-trip business. A 2007 report on coastal towns, commissioned by the Home Office in response to concerns about the decline in British seaside locations, detailed a process in which vulnerable families living in London boroughs relocated to the newly and cheaply expanded housing stock at seaside resorts, described by the Kent County Council as "social dumping,"[7] and seaside resorts were no longer regarded as fun-filled holiday destinations, but rather sad places, often filled with the most vulnerable people in British society. John Cummings, a Member of Parliament (MP), captured the challenges of the British worst faring seaside resorts: "There is nothing sadder in this world than travelling along the seafront and looking at dilapidated buildings, peeling paint, a forgetfulness about the whole place."[8]

By 2008, the comparative deprivation levels between coastal towns and British urban areas had become pronounced and known by government, with twenty-six of the thirty-seven main British seaside towns "having an overall level of deprivation greater than the English average."[9] The report listed the areas of particular economic and social deprivation, which aligned with the same seaside resorts that once held many lucrative arcades: "Bridlington, Clacton, Great Yarmouth, Ilfracombe, Lowestoft, Morecambe/Heysham, Penzance, Skegness, Thanet, Torbay and Whitby have the weaker local economies among seaside towns."[10]

My hometown district of Thanet, which contained three seaside resorts—Margate, Ramsgate, and Broadstairs—was considered among the most disadvantaged areas in Britain. As a resident, I witnessed arcades change character; the machines got older, the crowds thinner, and the décor tired, and as a result the arcades closed. Three local arcades caught fire (in Ramsgate, Cliftonville, and Margate) and were entirely gutted. The circumstances of the fires were unclear, but local rumors spoke of arson, insurance claims, and redevelopment plans. But this smacked of anti-arcade prejudice and could have been a product of old machines, limited investment, and poor maintenance—running arcades with old machines. Once the arcades burned down, two of them were not redeveloped in the twenty years that followed.

Thanet also became something of a public joke, serving as the backdrop to Pawel Pawlikowski's film *Last Resort* and unceremoniously featured in the satirical travel guide *Welcome to Shitsville UK*.[11] In *Last Resort*, an abandoned Russian mother called Tanya is placed in the British asylum-seeking system and is befriended by a mercurial British arcade owner, Alfie (played by Paddy Considine). This all takes place recognizably in Margate, described by the film critic Roger Ebert as a "bleak and crumbling seaside resort."[12] By the early 2000s, the British seaside resort had become a forgotten place full of the poor, the vulnerable, and the elderly—a place to be scorned and laughed at. Yet, as shown by the character Alfie in *Last Resort*, the amusement arcade still had an iconic hold over the public understanding of British seaside resorts. Whatever their new economic role, the arcade and arcade owner remained figures of mercurial fascination.

As an avid arcade-goer and born-and-bred Thanetian, the decline of British seaside resorts was disappointing, but it coincided with my departure to Manchester to attend university. I thought little of the situation at the time (in fact I was on some level complicit), but it was evident that something that constituted an important part of British popular culture for hundreds of years was being cast away. The adult gambling–focused arcades that I visited in Manchester, thick with cigarette smoke, dark wood, and machine stools for long play sessions, held little attraction for me. Nor was Namco's Funscape FEC in the enormous Trafford Centre shopping mall (although I admit that this saccharine arcade was slightly more to my taste, on account of it having the few big videogames that were released during this period). When I returned home as a graduate some years later and started work as a graphic designer, producing advertising materials for the seaside arcades, I was struck by what had happened. The sectioned-off adults-only areas had changed something: the games within felt somehow desperate and serious (or perhaps it was the clientele?), and their presence made the arcades feel less frivolous, less celebratory, less fun. It was also evident that very little investment had been made in the arcades—the machines were the same, but years had passed. Some seaside arcades closed; many others adapted and survived. I witnessed the changes firsthand, as the early 2000s led to major changes in the nature and character of the British arcade.

In October 2003, Rank, who had purchased Associated Leisure as part of the Mecca deal in the early 1990s, was also attempting to make sense of the new arcade landscape. With the decline of the coin-operated industry across Britain, its Rank Leisure Machine Services and Rank Seasonal Amusements divisions (the renamed Associated Leisure), which employed 800 people and made a profit of £3 million, were no longer considered central to the company.[13] Rank sold the divisions to Gamestec Leisure and then withdrew from the coin-operated machine distribution, servicing, and operation sectors entirely to focus on its Mecca bingo halls, Grosvenor Casino chain, Blue Square online betting company, and Hard Rock Cafés.

Arcades that welcome families have simply become accustomed to the economic overhead of the low-stakes, low-prize regime; some expanded their adults-only provision, while many arcades simply stopped investing in new machines and rode out the diminishing profits until they finally closed. Some arcade owners were astute or fortunate enough to hold out until the luck of seaside resorts changed, at which point the demand for their real estate, if not the arcades, had grown. For example, following the construction of a high-speed train line to London and the opening of a prestigious international art gallery, the Turner Contemporary, in 2010, Margate had a renaissance. It has become the darling destination for designers and creatives relocating from London and attracted by cheap real estate, and while this gentrification brought about an improvement in some aspects, it was London-centric, and it was unclear how much the changes benefited the local population—or indeed the arcade owners.

Despite the reversal of perception of the region from Costa-Geriatrica to a playground for bright young creative things, as well as rapid gentrification, Margate arcades fared less well. Weekend Instagramming sessions in arcades are evidently no replacement in the eyes of a coin-spending crowd of vacationers, and one of the remaining large arcades, The Fabulous Showboat, closed its doors in January 2020. It led to a curious outpouring of public sadness for that arcade and arcades in general. Despite all the remorse, I wondered when the last time those mourners had visited an arcade and spent money. There was evidently nostalgic remorse for the *idea* of the British amusement arcade—the arcade still means something.

An unexpected repercussion of the Deregulation (Gaming Machines and Betting Office Facilities) Order of 1996 that became apparent in the 2010s was the development of Fixed Odds Betting Terminals (FOBTs) in high-street betting shops. In 2001, betting shops began exploiting loopholes in the Deregulation Order and the conditions set out in the *Budd Report*, using network technology to create fruit machine–like terminals that behaved in a fundamentally different manner. Each of these terminals was not an isolated high-stakes fruit machine with winnings calculated over thousands of spins of the machine's reels, but rather a networked machine where all players simultaneously made bets on the outcome of a single networked event. In effect, they were all playing together, if only invisibly so. All of the people playing a FOBT, regardless of where they are based geographically, are placing bets on the same outcome, and the FOBT allows bets to be made in rapid succession every twenty seconds. The activity was not gaming but off-course betting, which is entirely permissible in betting shops and casinos, but not arcades. The 2005 Gambling Act set the maximum FOBT stake at £100, with the maximum prize of £500.

Started as a clever exploitation of law and unforeseen technology, and now legitimized by the 2005 Gambling Act, FOBTs proliferated throughout Britain. Fueled by their profitability and the removal of the demand test to restrict development, betting shops (and to a lesser extent casinos) sprang up across Britain. Those wishing to gamble, who once played AWPs in arcades, now rapidly spent their money on FOBTs in high-street betting shops, high-stakes fruit machines in AGCs, and betting in casinos. While urban arcades fared better by installing the higher-stakes AWPs, seaside arcades could not, and seaside arcade owners were left to reconcile whether to segment and segregate their arcades, as well as how to continue with income levels largely frozen by the 2005 Gambling Act.

The 2005 Gambling Act was an atrocious piece of legislation for the traditional British seaside arcade; it was disproportionately beneficial to betting shops and casinos and did nothing to recognize the value of the arcade. Instead of addressing the deficiencies of the 1960 Gaming Act, the 2005 Gambling Act repeated the same mistakes—creating new exploitable opportunities. While the 1960 Gaming Act created conditions that were exploitable by organized crime, which the legitimate arcade industry was forced to address for decades, the 2005 Gaming Act created opportunities for exploitation by technologically sophisticated organized gambling.

In May 2006, Jimmy Thomas and his business partner and son, Simon Thomas, sold their Showboat and Beacon Bingo businesses, including twenty arcades and one of Britain's most lucrative bingo halls. The Thomases earned around £80 million in the sale, later investing the money in the Hippodrome nightclub, Leicester Square.[14] The Thomases extensively refurbished the site and turned it into a casino that opened in 2012—it is now one of the most popular nighttime attractions in London. The Thomases, strident advocates for the role of the arcade as adult entertainment who trace a lineage from fairground to arcade, realized that casinos were the most economically sensible businesses in that legislative period, and the *Budd Report* and 2005 Gambling Act challenged the future of the amusement arcade in Britain. The changes brought about by the 2005 Gambling Act were so preferential to casinos that the move from coin-machines, bingo, and arcades to casinos made sound business sense for those able to finance such a transition. Like the showfolk who made the early jump from traveling fair to static arcade, those who paid close attention to legislative changes and had the necessary capital did well.

For those unable or uninterested in diversifying into casinos or adults-only amusement sections, only arcades in the largest resorts continued to be profitable on the scale that they had been before. Even those in central London, such as Family Leisure's Funland, encountered increasing economic pressure throughout the 2000s. After its purchase in 1999, Family Leisure joined the former SegaWorld and Funland floors under the Funland umbrella. However, in 2002, Family Leisure leased Funland and its machines to another operator, West End Amusement Parks.[15] Like arcades elsewhere in Britain, Funland was affected by the limited number of new videogames being released, and gradually the upper floors were decommissioned to reduce overheads. Yet Family Leisure had invested in the few machines that were released during the early 2000s, and Funland established a reputation for the skills of its arcade videogame players. It became something of a national hub for fighting and rhythm action games, such as Konami's *Dance Revolution (DDR)* series, where players must dance on pressure-sensitive footplates in time with music. Funland became the site of numerous ad hoc and official tournaments, and it attracted a dedicated community of skilled *DDR* athletes and fighting-game players.

Following the 2005 Gambling Act, Funland allocated increasing amounts of its space to AWPs and installed adults-only areas to generate income from the higher-stakes machines. The videogame section of Funland eventually shrank as games failed and were not replaced; besides, few arcade videogames were even being released. It gained a reputation as a tough arcade for hardcore players. In May 2005, the investment firm Golfrate purchased the Trocadero building for £225 million and announced that it would redevelop the site.[16] A spokesperson for Golfrate uncharitably described the site as "a dog,"[17] explaining that the plan was to "take out everything that's in the Trocadero at the moment, put several large shops on the ground floor and use the upper part of the centre either as offices or a hotel."[18] While West End Amusement Parks still held the arcade lease, Funland's days were now limited, and no more significant investment was made in the arcade.

In July 2011, West End Amusement Parks went into arrears with the Trocadero landlord due to an unpaid electricity bill.[19] As a spokesperson for West End Amusement Parks explained:

> On July 1, 2011 the rent went into arrears and on July 3, 2011 the landlord disconnected the electricity supply and chained the emergency fire exits closed. An offer to pay for the supply of electricity was made to the landlord in an effort to maintain the operation of the site while negotiations were under way. The offer was rejected resulting in the forced closure of the site by the landlord.[20]

To further complicate matters, Family Leisure was hampered in its efforts to secure and relocate 450 of its machines on the site. When it finally gained access, many of the machines were then promptly sold to other arcades across Britain, at closedown prices. The abrupt circumstances—an unpaid bill, the shutting off of electricity, and the locking of fire exits—marked the unceremonious end of what was once the busiest, brightest, and most exciting arcade in Britain.

It is perhaps no surprise that for conventional AWP and videogame manufacturers and distributors, the British market post–2005 Gambling Act was incredibly inhospitable. Cromptons, who were now Sega's British distributor, saw demand for their pushers and amusement machines collapse as arcades shut or invested in high-stakes machines they didn't specialize in. In 2006, the company was listed as insolvent, was dealing with immediate liquidity issues, and finally went into administration and closed in 2009. Companies such as Harry Levy, which were able to establish and maintain footholds in export markets, managed to navigate through the most difficult years and have continued to trade. Harry Levy is now considered the largest coin-pusher manufacturer in the world, building a range of pushers and redemption machines, often using evergreen cartoon or comic licenses, such as *Scooby-Doo!* and *Wacky Races*. The company also distributes children's arcade games, including the popular *Zombie Outbreak,* which fuses a water-shooter and a videogame. Electrocoin, who diversified extensively throughout the 1990s, was also able to weather the economic storm and remain a major distributor, but primarily within the AWP and higher-stakes sector.

And so the British arcades persist; they continue under the conditions imposed by the 2005 Gambling Act as either adults-focused, higher-stakes AWP locations or family-friendly seaside arcades with a mix of low-stakes AWPs, occasional videogame, crane, and penny-pusher machines, and perhaps a redemption area. The arcade has also been subject to prejudicial and misplaced antipathy over FOBT machines. Many people incorrectly assumed that FOBTs were installed in arcades—*they cannot by law*. Throughout the later 2010s, FOBTs were identified as a source of problem gambling due to the speed at which money could be spent. These machines offer a variety of games, much like a videogame containing a series of mini-games. And each game on a FOBT, whether roulette wheel or digital slot machine, has different stakes. The FOBT maximum stake was £100, allowing sufficiently inclined players to gamble up to £18,000 an hour. The national press was awash with stories of gambling addicts who were able to bankrupt themselves within hours, just one of the many social ills of gambling. The design of the FOBT machines—the speed and stakes of gambling—and their proliferation throughout Britain via betting shops became a primary concern. In this situation, the British Amusement Catering Trade Association (BACTA) urged its members to lobby the government to make changes, but the arcade industry was still subject to misplaced criticism over FOBTs. In early 2019, there were 33,360 FOBTs in Britain, generating £1.2 billion in gross gambling yields (the value of all bets or stakes minus the value of winnings).[21]

An August 2017 report by the Centre for Social Justice highlighted the negative impacts of FOBTs,[22] which naturally echo the concerns previously raised about the comparatively benign arcade fruit machines. According to the report, the major distinctions are the size of the stakes, potential losses, and exposure to debt; that problem gambling had increased in Britain by 300% since 2009, when FOBT expansion became most pronounced; and that FOBTs in betting shops were placed in locations selected to target the most vulnerable, and those in the poorest neighborhoods. Furthermore, the large amount of money that could be wagered in FOBTs had been exploited for money-laundering purposes and therefore was part of organized crime in Britain. However, the most pressing concern was the £18,000-per-hour exposure to debt that FOBTs offered (it would take a little more than ninety minutes and a run of bad luck to spend the average annual British wage).

In May 2018, following cross-party lobbying led by Labour MP Carolyn Harris and former Conservative Party leader Ian Duncan Smith, the Gaming Machine (Miscellaneous Amendments and Revocation) Regulations Act 2018 was passed. This restricted the maximum FOBT stake from £100 to £2 every twenty seconds, reducing the potential exposure to losses from £18,000 to £360. However, it is interesting to observe that the Gambling Commission, the successor to the Gaming Board, was less strident in its recommendations. The Gambling Commission advised the government that while *slot machine* games on FOBTs should be reduced to a £2 stake, other games on the machines, such as roulette, should be allowed a £30 stake (thus still exposing the player to a theoretical £5,400 hourly loss). Furthermore, the recommendation was not that the new stakes be applied immediately after the mid-March 2018 consultation, but beginning October 1, 2019, some eighteen months later. This planned stake-change schedule resulted in widespread confusion and outcry, as well as the public resignation of the UK sports minister and MP for Chatham and Aylesford, Tracey Crouch, who explained in her resignation letter:

> Unfortunately, implementation of these changes are now being delayed until October 2019 due to commitments made by others to those with registered interests. From the time of the announcement to reduce stakes and its implementation over £1.6bn will be lost on these machines, a significant amount of which will be in our most deprived areas including my own constituency. In addition, two people will tragically take their lives every day due to gambling related problems and for that reason as much as any other I believe this delay is unjustifiable.[23]

Following calls to fast-track the changes by more than 70 MPs from both sides of the House of Commons, Prime Minister Theresa May responded. Initially, she vowed to stick to the October 2019 implementation date, but then she faltered and changed her stance under pressure. From April 2019, FOBT stakes for *all* game types were reduced to £2, leading to the closure of many betting shops around Britain that had become reliant on the machines.[24]

It is interesting to consider why the Gambling Commission recommended higher stakes than were being called for by the public and by lobbyists and, more pertinently to our discussion of British arcades, why slot machines were singled out, as a specific game type, for more stringent regulation. FOBTs were not the only significant impact of the *Budd Report* and 2005 Gambling Act on the British gambling landscape—and thus of relevance to the amusement arcade. Online gambling also expanded prodigiously during the post-Budd period.

Since the first online bet was made in 1996, placed by a Finn with the Austrian company Intertops on the outcome of a British soccer match between Tottenham Hotspur and Hereford United, British bookmakers have been keen to explore opportunities.[25] The liberalization introduced by the 2005 Gambling Act made Britain the most attractive and receptive jurisdiction to offer online gambling, and after an initially difficult start with large investments (and losses) made in online gambling software and infrastructure, the British market is now not only established, but world-leading. While online gambling remains illegal in many countries, including much of North America, it has been embraced by the British.

In her 2020 book *Vicious Games*, Rebecca Cassidy explains that she was told by North American gambling industry members that "their businesses are currently around fifteen years behind the UK in terms of innovation, regulation and knowledge."[26] And, with liberal gambling legislation and a strong cultural acceptance of gambling, the UK has become the largest regulated market for online gambling in the world. In many senses, gambling and the lessons from FOBTs represent the logical continuation of the commercial exploitation of gambling. It is sophisticated and entrepreneurial and responds to British appetites. Cassidy explains, "corporations are already comfortable exploiting the intersections of gambling and gaming, betting in-play, social gaming, Bitcoin, financial trading and spread betting, betting exchanges, e-sports and, most profitably, mobile gambling."[27] This is curious and seems misaligned with the Gambling Commission's remit to protect those at risk from gambling, which motivated the freeze on cat D stakes. Data gathered for the Gambling Commission itself indicates that "more than 2 million people in the UK are either addicted to gambling or at risk of developing a problem" and that "125,000 children in the UK are either problem gamblers, or at risk of developing problems"[28]—numbers that increased in the wake of the 2005 Gaming Act.

As seen with the FOBTs, online gambling is not restricted to placing bets on soccer matches or horse races; it also includes direct translations of arcade fruit machines, but with the higher stakes and prizes allowed by the remote betting and remote gaming Gambling Commission license. Between April 2019 to March 2020, the online casinos licensed to operate in Britain, largely dominated by online slots, generated just over a fifth (22.3 percent) of the entire British gross gaming yield of £3.2 billion pounds. The attraction of online slots is clear. In 2019–2020, online blackjack generated £8 billion in turnover and £197.6 million in yield, online roulette £17.5 billion turnover and £410.5 million in yield, but online slots had a turnover of *£58.1 billion* and generated *£2.21 billion yield* for its operators. In comparison, the *entire* licensed British arcade industry generated a yield of only £477.25 million, and the contribution made by cat D machines, the machines that may be played by children and generate so much discussion about social ills, is a mere £70.4 million. Online casinos now dwarf the entire British licensed arcade industry by almost sevenfold. Despite the rules that strangle it (or perhaps because of them), amusement arcades are no longer the profitable enterprises or perceived moral hazards that they were once thought to be.

This is perhaps best understood in combination with the 2005 Gambling Act regulations which set the cat D machine stake and prize limits—and which have not been raised in line with inflation since. Cat D machines appear to be regarded as a legislative embarrassment, an unfortunate repercussion of the 1960 Gaming Act that children are allowed to play on. Despite the absence of any persuasive evidence that playing such machines leads to higher incidences of problem gambling, they have been regulated to the extent that they will soon cease to be economically viable to operate. The method of protecting children from gambling makes little sense when the pleasures of gambling have become themes within many videogames played by children, including *Fortnite's Loot Llamas*, *Genshin Impact's Fates*, and even *Crossy Road*, with its random character awarding gumball slot machine. While these videogames are not *about* gambling, they embrace the themes of risk, chance, and reward that are key to what makes gambling so enticing. If the aim is to reduce engagement with gambling, then broader restrictions are required; instead, it appears that the opposition of cat D machines is prejudicial and anachronistic. It leads us to ask: Why still attack these machines? Why are these machines in arcades if they are so dangerous?

My view is that children playing cat D machines in Britain is an embarrassment to some politicians—that they view it as somehow out of step with civilized society, and certainly an outlier compared to other countries. The decision not to increase the stakes of cat D machines will choke their profitability, and the remaining arcades will be forced to invest more heavily in the licensed adults-only machines (generating more tax for the state) or else to cease operating altogether.

The pity with this scenario, as set out in this book, is that the British amusement arcade's physical, social, and industrial development has been contingent on AWPs/cat D income. Replacing these machines with higher-stakes, adults-only machines changes the character of the British arcade and removes its social and cultural complexity. Such an arcade becomes by definition solely a place of gambling, or in the occasional videogame amusement center, a place of juvenile play. We lose the tensions and opportunities created by multigenerational and multifocused play. The adoption of adult machines would certainly increase profits in an arcade, but it would also lead to segregated play; a family might visit an arcade, but if the only way to play is to move to a separate area, they are unlikely to play, and as a family, they might not stay long.

What this leads to is a situation where the amusement arcade ceases to be a place for a family, or for anyone with some spare change who wishes to play a game, and so it becomes individualized and transactional. Gamblers go to a certain type of arcade, an Adult Gaming Centre (AGC); families play for a short while at the seaside in an amusement arcade; fans of videogames seek out a retro arcade; and many others find many of these pleasures elsewhere—and often online.

This does not quite bring the story of the British arcade to a close, as since the mid-2010s, the arcade landscape has included retro arcades. In 2013, arcade videogame fans Mark Starkey and Simeon Lansiquot opened a retro arcade in Acton, not far from where the Crompton brothers operated their first machines. Heart of Gaming was a retro arcade featuring videogame machines purchased from the many arcades around London, including some from the acrimonious Funland closure. Heart of Gaming became an arcade for videogame aficionados and many of the Funland diaspora, who were often critical of the ways that arcades had changed and who nostalgically yearned for videogame-centric spaces like those experienced in the 1980s and 1990s.

Few arcade patrons appreciated the economic and legislative challenges which the British arcade industry endured, which necessitated the changes. Instead, these players ascribed to the mythic arcade model and simply saw that videogames, the true significance of the mythic arcade, had been removed from circulation (by what they sometimes perceived as barbaric or out-of-touch arcade owners). Heart of Gaming built a committed following but closed due to theft at the premises; it later relocated and reopened, but it importantly highlighted the British appetite for videogame arcades and the power of the mythic arcade. Heart of Gaming marked the beginning of the British retro arcade industry, yet another change to the character of the British arcade, now often led by arcade videogame enthusiasts instead of former showfolk or industry hands.

The largest and most famous retro arcade in Britain is Arcade Club, owned and established by Andy Palmer. Palmer is also an avid videogame enthusiast who had developed a large personal collection of machines while they were being sold off in the 1990s and 2000s as arcades closed, which he sourced and painstakingly restored. Palmer's collection was featured on a BBC television show, *Collectaholics*, which showed him opening his videogames to the public to play. Following the program's broadcast, Palmer was inundated with messages from Britons wanting to play his games. In 2015, having invested in more machines and premises in Ela Mill, Bury, about five miles from Alca's former Oldham factory in Manchester, Palmer opened Arcade Club, a large arcade celebrating the golden age of videogames, on a flat-entrance, free-play basis. With more than 300 machines on free-to-play, Arcade Club is now Europe's largest videogame arcade. Unlike the American Barcade model, arcade videogames are the central attraction at Arcade Club, and it embraces the character and furnishings of a British arcade. On arcade videogame collection forums, there is now a running joke that Palmer owns almost all the Electrocoin Goliaths still in operation and purchases almost every decent machine that appears for sale in Britain—a claim that is likely close to the truth.

Elsewhere, at London's Las Vegas arcade, Soho, videogames and AWPs still exist in parallel. The site adheres to the necessary division of higher-stakes machines and videogames by operating on two floors. The ground floor contains gambling machines, while the basement remains a sizable videogame arcade. Many of the larger machines, such as driving games from Funland Trocadero, were relocated to the Las Vegas Soho arcade, and the arcade became the new London base for many of the *DDR* and fighting-game tournaments that continue to this day—arcades such as Las Vegas and FreePlayCity can be understood as current-gen arcades, distinct from Arcade Club's primarily retro offerings. These current-gen arcades have even addressed the paucity of new videogames entering Britain (which is starting to change, thanks to Sega Amusements International's successful return to British videogame manufacture and distribution) by collaborating with a small number of other dedicated current-gen arcades globally—Sugoi in Helsinki, Finland; Hey Stockholm, in Sweden; La Tete in Paris, France; and FreePlayCity, in North London—to import interesting Japanese games into European arcades.

FreePlayCity opened in August 2021, continuing to cater to the dedicated and passionate arcade audience. It primarily consisted of competitive fighting and dance videogame players who found a home at Funland Trocadero, and later at Las Vegas Soho. While this hardcore competitive audience is sizable, these player communities also entice others into arcades, and tournaments and events carefully navigate the relationship between home console videogames and the arcade. Tournament play is often focused on games that can be played and mastered at home, while the spectacle of the professional-level play and the community experience happens in the arcade. The inclusion of niche imported games further increases the attraction of these spaces.

In this sense, the immediate future of the British arcade, as a site for videogames at least, appears to be in the hands of a small but growing number of dedicated arcade entrepreneurs and advocates, such as Andy Palmer and Toby Na Nakhorn. Their efforts demonstrate the commercial viability and social demand for collective public play in videogame amusement arcades in Britain, illustrating the importance of social media and arcade community outreach (something that the existing arcade industry has been slow to exploit). The liveliness of the current-gen arcade scene is testament to their hard work and indicates that there is still a demand for many types of arcade in Britain, even if the vision of a traditional arcade that facilitates all kinds of play, for all ages, seems out of step with legislative (and perhaps public) tastes.

Despite the fracturing of the arcade landscape into different specialist provisions, the traditional arcade still remains a feature of British seaside resorts to this day—and they often are run by showfolk families. Cain's Amusements is a family-run arcade chain based in Herne Bay, but with branches across East Kent. The Cains are a former showfolk family who not only dedicated their efforts to the British seaside arcade, but are actively involved in the preservation and promotion of formerly neglected seaside resorts. As the current director, David Cain explained, the Cain family first ran rides at The Forgotten Fairground, Deptford, South East London, from its opening in 1890. David Cain's grandfathers were both extensively involved in the Showmen's Guild, serving as chairmen for the London section. In March 1961, The Forgotten Fairground, then part-owned by Charles and Thomas Cain, was closed in Deptford Council's regeneration strategy, and the family sought other opportunities. In 1970, David Cain's father, Bill, and two brothers-in-law opened their first arcade in Dover, but in 1977, after the in-laws returned to the fairground, Cain sold the business and bought an arcade in Herne Bay. This arcade became the first of the successful Cain's Amusements chain, which reconciles a traditional British arcade with pushers, amusements, videogames, AWPs, and an adjacent adults-only section (run on a different Gambling Commission license). The family see the arcade as an important aspect of British culture and leisure; tellingly, David's sons have joined the family business, and the company has announced plans to expand one of its arcades in Leysdown. Talking of a busy Bank Holiday August—considered the pinnacle of the British seaside season—at his arcade in Herne Bay, Cain explained the role of the arcade owner and showman: "This weekend I didn't go anywhere else, I was here, and it was a pleasure I was there greeting people, shaking their hands, welcoming. That's what we do. And my sons they're doing the same."[29]

This narrative of hospitality, the joys of entertaining people, and the quiet perseverance of showfolk in the face of hostile legislative and tax regimes were things that I encountered repeatedly when talking with arcade managers and owners. While many British amusement arcades have closed, and still more were purchased by large international corporations and investors such as Gauselmann, there still remain showfolk who offer continuity with the traveling fairs of ancient Britain. Nor is the Cains' narrative of showfolk turned resilient arcade entrepreneurs, despite continued taxation pressures unique to the economics of South East England.

In Southport and Blackpool, on Britain's North West coast, the Silcock family's Silcocks Amusements company tells a very similar story. Beginning as traveling showfolk in the 1880s, running coconut shies and swing boats at fairs around Greater Manchester and the North West, members of the family made a transition from traveling fairs to amusement parks to amusement arcades. Herbert Silcock Sr. learned his skills on the fairgrounds after World War II and was advised by Showman's Guild president Arthur Bates to "get a seaside," in the late 1950s.[30] Southport was the seaside resort that Silcock selected, and now the company he founded is run by his children, Herbert Jr., Mark, and Pauline, as directors. Like the Cains, the Silcocks have adapted to the changing legal framework by investing in higher-stakes machines, one of the largest redemption setups in Britain, and a casino. The Silcocks operate three arcades, a casino, an AGC, and a redemption center in Southport; they also run two major amusement arcades in Blackpool, including Fun Palace, bought from Family Leisure in the mid-1990s.

It would be incorrect to suggest that the British arcade is thriving or that AGCs have a strong connection to the long history of traveling showfolk and British culture (AGC expansion has typically been a project of large consortia and leisure companies). It would perhaps be more sensible to see the British arcade as a changing, adapting entity, responding to British demands for amusements, leisure, and—as unpalatable as it may be for many people—gambling. At present, this includes low-stakes gambling by children. Whether legislation is eventually introduced to prevent this or the frozen stakes introduced in 2005 simply make it disappear by economic default, it remains a British cultural phenomenon to mark and consider. Britain remains the only country in the Western world where gambling by children is allowed, and this has become only one of the activities—alongside videogame play, cranes, punch bags, redemption, and coin-pushers—around which the British amusement arcade is formed.

At this point, it is sensible to suggest that the British amusement arcade remains, but social, legislative, and technological changes (both national and international) have pushed it from being a site of collective public play to one that is increasingly segregated and isolated. The British arcade of old has splintered into different, but equally valid forms. We have the urban high-stakes AGC sites, such as Gold Dust, which offer adults opportunities to socialize and gamble; we have videogame-centric retro arcades like Arcade Club, which cater to nostalgic adult gamers (many of whom are disciples of the mythic arcade), offering hundreds of classic videogames; we have current-gen arcades like FreePlayCity, which cater to dedicated contemporary arcade players, importing niche games, supporting communities, and bridging the home and arcade videogame tensions; we have juvenile family entertainment centers, venues that blend redemption, videogames, and leisure activities like bowling, such as Namco Funscape, which are moderated versions of the failed Japanese vision that created SegaWorld; and, thankfully, we still have many traditional British amusement arcades, like Cain's Amusements or Silcock Leisure, which cater to holidaymakers and locals, balancing AWPs, amusements, and redemption.

Each of these modes of the British arcade brings pleasure and joy to its visitors, pleasure that sometimes oscillates between playing games and gambling, as it has done with wide social acceptance for more than a hundred years (and legally so for more than sixty). The British arcade, in its various forms, remains a significant part of British culture, and it will continue to change and adapt in response to new technologies, social demands, and legislation. It remains an often-pilloried element of British culture, ridiculed or dismissed as low culture by those who sneer at its inexpensive and democratic pleasures, or attacked by moral reformists. But this is nothing new; it resonates with the treatment of the traveling showfolk and the traveling fairs that have been a part of British culture for a thousand years.

I began this book by railing against the mythic arcade as a distorted, nostalgic view of an arcade dominated by North America. Yet I must acknowledge that *Arcade Britannia* offers another equally distorted account. I could only tell certain stories, shaped by my views, limited by the need to trace a chronology. Furthermore, most of the book was written during a COVID-19 national lockdown, and I nostalgically yearned for the return of communal play in the British seaside arcade in the summer and off season. Still, *Arcade Britannia* presents a previously untold account of the development of amusement arcades from a distinctly British perspective. It reframes the arcade not as a purely adolescent, masculine space defined by videogames and technological innovation, but instead as a space of socialization and community, defined by the intersections of legislation, public attitudes toward propriety, concerns about criminality and moralism, the actions of entrepreneurs and entertainers, and more often than not, global economics.

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